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P. G. Reynolds

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THE FARMER AND PLANTER



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TO OUR NEW SUBSCRIBERS.

During the past month we have received a large addition to our subscription list, and “the cry is, still they come.” Nearly all of these new subscribers request us to date their subscriptions from August, so as to include the whole of the able address of JULIUS T. PORCHER, Esq., on the “Means of Improving our Soil.” This, we conceive, is a high compliment to Mr. PORCHER’S Address, and we greatly regret to state that we now discover our inability to supply the August number, having run out of our edition of that issue. While attending the Chester and Darlington Agricultural Fairs, we promised many who then subscribed, to furnish them with that number, but as it is now impossible for us to do so, we have dated their subscriptions from October, but will send to each the September number.

We are truly gratified to find so great an interest felt for the success of our journal, and we are still confident that our list for the next volume will swell to **at least 5000**. Should that number be secured (and we see no reason why it should not) we intend making still greater improvements in the appearance and usefulness of our journal, so that it shall not be inferior to any agricultural journal in America.

In the mean time we would ask those who intend to subscribe for the next volume, to let us know as early as possible, so that we can print a sufficient number to meet their orders. As we are compelled to put a portion of our journal to press early in the month previous to its issue, we would request all who wish to renew their subscription or become subscribers to the next volume, to inform us by or during the month of November.

DO YOU INTEND TO SUBSCRIBE!

As we are now making arrangements for our next year’s issue, we would like to know, as early as possible, what number we shall require. We, therefore, call upon our present subscribers and the friends of the paper in general, to be up and doing all they can for us. Surely each one has influence enough to induce one more to subscribe for it? At any rate, we hope each one will make the attempt.



VOL. X.

OCTOBER, 1859.

NO. 10.

R. M. STOKES, }
PROPRIETOR. }

COLUMBIA, S. C.

{ NEW SERIES
Vol. 1, No. 10.

For the Farmer and Planter.

AN EXPERIMENTAL ESSAY ON WHEAT CULTURE.

In March, 1853, I came in possession of a farm near the town of Winnsboro', upon which was a settlement of about twenty years standing. Around this premises were several lots of from one to three acres area. Whatever may have been their pristine fertility, they were, in 1853, hopelessly barren. The history of one of these lots, (measuring two acres,) from 1853 until the present year, with a report of a wheat crop harvested upon a portion of the lot, and a history of another one of these lots, (measuring one-and-a-half acres,) together with a similar report of a wheat crop grown upon a portion of the same, will be the object of this essay.

The two acre lot was of a coarse, gray, gravelly, sandy surface, with a red clay bottom or subsoil. The first work done upon it was the grubbing of innumerable sprouts of sassafras, and cutting down a scattered growth of old-field pines. In April, 1853, the lot was "bedded up" with a twister plow, and corn planted upon the bed. Receiving ordinary culture, the lot in the fall yielded just ten bushels of inferior corn.

In 1854, the water furrows of the old beds were opened with a shovel plow, and manured by drilling into them a compost of 140 pounds of guano and five bushels of charcoal dust, to the acre. Upon these furrows beds were again thrown, and corn planted thereon the 22d of April. The prospect for a fine crop was very promising until silking season, when a severe drought cut short the crop at least one-third. Nine bushels of corn and a hamper of nubbins, was the yield harvested, per acre, in the fall.

In 1855, the lot was divided into three parts, and

manured, as before, in the drill for corn again, the first with stable manure, the second with hog-pen manure, and the third with a compost of trampled leaves, corn-stalks, &c., made in the open lots around the stable and cow-house. This crop was cultivated as before, and in the fall yielded three two-horse loads of good corn, one of which loads was shucked, shelled and measured as soon as it was hauled. The measurement was a satisfactory one of thirteen bushels of good corn; thus showing a yield of nineteen and a half bushels per acre. The portion of the lot manured with the compost yielded only two-thirds of one of the loads, and the ears of corn were small. The pig-pen manure produced the best corn. The stable manure "fired" the corn somewhat.

In November, 1855, every corn-stalk was cut or pulled up and removed to the stable lot, and the land broken up with a "twister" on a "rooter stock," drawn by two mules; sixty bushels (measured) of cotton seed were then broadcasted upon the two acres—the lot cross-plowed with bull-tongues—two bushels of May white wheat was then sown upon the lot, and plowed in with bull-tongues across the last plowing.

The 9th of June, 1856, the wheat was cut, and a few days after thrashed, turning out only seven bushels per acre. From an unprecedentedly dry Spring, the wheat crop, this season, was a general failure. Many planters could not cut wheat at all.

After hogs had gleaned the stubble, the lot was sown in three pecks of Oregon peas, and plowed in with a bull-tongue. In the Fall, one-and-a-half tons of beautiful hay (pea vines and "crab grass,") were mown from the lot.

In February, 1857, the lot was again manured

with cotton seed (fifty bushels) plowed, sown in yellow oats, and brushed. This work should have been done earlier, but the month of January was too inclemently cold for outdoor work, the land being covered with snow nearly the whole month.—The March following was an exceedingly severe month on small grain crops, and many agricultural croakers predicted a failure of all culmiferous crops; but time falsified their predictions. The wheat harvest was as abundant as ever had been known; and the oat crop was also prolific. That the freezes of March did an injury, however, cannot be denied; for, although the red or clay lands produced bountifully, the sandy-loam lands suffered considerably. On these lands, however, the sparse spears of oats “stooled out” wonderfully; and, in a degree, thereby compensated for the loss sustained by the cold. At oat harvest 32 bushels were measured from my two-acre lot.

One bushel of the “Shiney” (speckled) pea was then sown upon the two acres, and with the oat stubble immediately plowed in. In due time a beautiful stand of oats, “erab grass,” and peas, came up. Another heavy mowing was anticipated, but the dry Fall blighted my hopes, and, consequently, the cattle reaped the benefit of my industry, in a delicious pasture.

In October, 1857, three-quarters of an acre was selected from this two-acre lot, being its poorest portion, or that third of an acre and its adjoining parts, which was manured with barn-yard compost, in 1855. This three-quarters of an acre was broadcasted with barn-yard (trampled leaves) manure, and coarse, half-rotted manure from the cow-house. This was turned under, by a two-horse team drawing a one-horse twister-plow. Twenty bushels of cotton seed, previously rubbed in 100 pounds of guano, were scattered upon the three-quarters of an acre, and plowed in with bull-tongues; one bushel of the Tubman (Mogul) wheat sown broadcast thereon, and brushed in. On the 10th of June, 1858, the wheat was cut, with fearful anticipations of a meagre yield, as the heads of the wheat were, three mornings in succession, white with frost, while in their “milk” state. A yield, however, of sixteen bushels, two pecks, and four quarts, removed any apprehensions on this point. This measurement was made after the wheat had been thrice winnowed by hand fanners.

From the one acre-and-a-half lot, alluded to above, the pines were cut, and the broomsedge burnt, in December and January of 1853 and 1854. Before planting time, the land was twice broken up with bull-tongues, the furrows crossing each other; and,

in April, 1854, planted in corn, without manure.—After receiving diligent culture, the harvest was but seven bushels of poor corn, per acre. In 1855 corn was again planted upon the lot, and manured in the drill, with two hundred pounds of guano. This uneconomical stimulus appeared to gladden the barren ridge until silking time, when a drought of four weeks duration proved that my reliance upon this foreign manure had warranted me in planting my corn entirely too close. In October, only eighteen bushels of corn were gathered from the acre-and-a-half. In 1856, corn was a third time planted upon this lot, and manured as before, in the drill, with thirty-seven bushels of cotton seed, or twenty-five per acre. This crop gave satisfaction, yielding fifteen bushels of good corn, per acre, scarcely a “nubbin” of corn upon the lot. In November, 1856, the corn stalks were removed from the lot, when fifty bushels of cotton seed were sown upon it, and plowed in with a twister-plow, on a rooter stock, drawn by two mules. One bushel and a half of red May wheat was sown broadcast upon the lot, and brushed in. As early in 1857 as the wheat had fully developed its heads, and while yet in its “milk state,” one acre was measured, and cut three times a day, in quantities sufficient to feed three horses and two mules. This stock was plowed daily, received no other food—not a grain of corn or a blade of fodder—kept in good condition, and continued eating from the single acre for fifteen days. Upon the supposition that each horse would have received ten ears of corn and two bundles of fodder, (which is my usual allowance) at a “feed,” and that 130 such ears make a bushel, (which also is my experience), and that one hundred bundles of fodder weigh one hundred and fifty pounds, the same five head of stock would have eaten, in the fifteen days, seventeen and a third bushels of corn, and six hundred and seventy-five pounds of fodder, which I do not believe could have been raised that year, upon the same acre of land, with the same manure, apart from the greater amount of labor required to produce the corn crop—the one requiring Summer culture, while the other demands simply a Spring harvesting—the “seeding,” “pitching,” or planting either crop, being the same.

In August, 1857, my stables were cleared of their manure, which was broadcasted upon a turnip patch, when the stables were immediately littered with rye straw. Regularly, once a week, rye straw was thrown into the stable, until October, when they were again emptied of their green manure, which was strewn broadcast upon a portion of the one-and-a-half acre lot. When the manure gave out, the

part manured was accurately measured, and discovered to be just three-fifths of an acre. This three-fifths was a gray, sandy, gravelly land, very similar in appearance to the three-quarters spoken of above. Both equally poor, and neither having any claims to fertility; both situated in the same field, but not contiguous, being separated by an intervening lot. This broadcast coating of manure was deeply plowed in, by a twister drawn by two mules. Twenty bushels of cotton seed were well rubbed in seventy-five pounds of guano, and this compost put upon the three-fifths of an acre, in the following manner: A single-horse twister was drawn across the last plowing, and in each furrow the compost was scattered by a hand, throwing it by scattered handfuls, and following closely the plowman. Behind the boy who sprinkled the manure, another mule followed closely, in each successive furrow, drawing a long scooter-plow. By this process each twister furrow covered the manure drilled in the one just previously run, and the scooter furrow deepened the plowing, as well as mingled the seed or manure with the soil. On the 27th of October, 1857, the wheat was sown by running a horizontal furrow with a broad blunt shovel, drilling the wheat therein, and returning with another parallel furrow, just far enough from the first furrow to slightly cover the wheat sprinkled in it. A peck of wheat, lacking about a quart, was thus consumed in sowing the three-fifths of an acre. The land was then brushed two ways, and left very smooth.

In the Spring of the present year the wheat seemed irregular in height, though sufficiently thick on the ground; and not until it had attained the height of nearly two feet was it discovered, that the tallest and most luxuriant growth upon the land was rye, coming, doubtless, from the rye seed in the stable manure. As soon as the rye began to head, it was all cut out carefully with my pocket-knife, except a portion in one corner of the lot, which seemed to grow thicker than the wheat. This was allowed to mature, and attaining an average height of six feet, was cut and thrashed, yielding one bushel of good rye. The quantity cut out with the knife was allowed to wilt an hour or more in a hot sun, and then weighed—weighing 838 pounds. On the 4th of June, the wheat was cut, and not until the 3d of August was it thrashed, when, after a careful and thorough winnowing, 15 bushels and 3 quarts was the measured product.

These two lots were originally guessed at for half acres, but accurate measurement proved one to be three-quarters, and the other three-fifths of an acre. The aggregate measurement of the two is 1 7-20

acres. The aggregate yield of the two was 31 bushels, 2 pecks, and 7 quarts. Hence, an average yield of $23\frac{1}{2}$ bushels per acre. One bushel of each of these kinds of wheat were on exhibition at the Fair rooms. The bushel of rye, and 838 pounds of green rye, increases the yield upon the three-fifths of an acre.

Several practical conclusions are deduced from the above experiments, which can, I think, be enumerated with certainty in the catalogue of fixed facts.

First: No farm, to say nothing of plantations, which has been completely robbed of its fertility, can, in an ordinary life-time, be restored to its prime productiveness, except by unremitting exertion, scientific culture, and the application of mineral or foreign manures. All domestic manures, such as stable, cow-house, pig-pen, or compost manures, when concentrated in the drill, are too heating to be applied to very poor land; to produce the most lasting and remunerative effect, they should be broadcasted, and then their effect is better seen the second and third years than the first.

Second: Guano is the best possible manure for wheat, and pays better on poor, red land than on poor, sandy, or gray land. Cotton seed upon wheat will produce the most luxuriant stalk, but guano "tells" more immediately upon the grain; therefore, a compost of the two is superior to either used separately. To make this compost, a layer of cotton seed should be dampened with water, then sprinkled with guano, and continued in this alternation, cotton seed, water and guano. By measuring the cotton seed, and weighing the guano, the accurate worth and amount of the heap is ascertained. The pile should then be rolled, by rubbing the seed upon the floor or ground. The lint of the seed will absorb the guano, and the astringency of the guano will destroy the germinating principle of the seed.

Third: In preparing land for wheat, deep plowing is essential, not to produce moisture, but the reverse. Our Winters are usually wet, and the rains that fall are absorbed by the deeply plowed land. Shallow plowed land cannot receive the rain water, and hence, in extremely cold weather, "spews up" a heavy "jack" or "black" frost, which is the unabsorbed water frozen. On deeply plowed lands this cannot occur, to so great an extent. During a dry Spring the deeply plowed land reverses its action, and by capillary attraction supplies the parched rootlets with moisture. Shallow plowed lands become too hard for this process.

Fourth: Wheat is not easily injured by cold weather. Its only critical period is while jointing.

Before this time it may be nipped by the frost without detriment; last Spring has proven, that, in the milk state, wheat experiences but little injury from frost. In February and March, of 1857, wheat was twice bitten to the ground, and yet the crops of that year was probably the best ever made in this section of the country.

Fifth: To be sure of eating good bread, good seed must be planted; and when garnered, thrashed as soon as possible afterwards. Continued exposure in the field, after reaping, discolors the grain, and, in a wet season, causes the wheat to sprout; and when packed away under cover, for too long a time, in bundles, creates a musty flavor, which is often communicated to the flour.

Sixth: Seed wheat should be gathered by hand, from the earliest ripe, and also from what shatters from the bundles, when thrown into or out of the wagon, when hauling in the crop. These last are not always the largest grains, but are sure to be the ripest, or soonest matured. The seed should then be washed in strong brine, dried thoroughly, and put away in barrels or boxes. This washing coats each grain with salt, and prevents the attack of weevils during the Summer, as well as hastens the germination of the seeds when sown, by the salty coat attracting moisture, which is necessary to germination.

Seventh: Most persons soak their seed-wheat for twelve or twenty-four hours, in a solution of blue-stone, or in salt water, as a preventive against rust. This may be an effectual reliance, but I imagine deep plowing as certainly effects the same end.—Rust is undoubtedly a sort of corrosion, produced by too much moisture, followed by dry weather. Last Winter was wet—last Spring was dry. The ordinary oat and wheat crops suffered from rust.—Deeply plowed land absorbed moisture in the Winter, and sucked up moisture from below in the Spring, thereby producing a uniformity of condition in the soil, which prevented rust, in a degree—not absolutely.

Eighth: To grow the most remunerative crop of wheat, the seed should be drilled—not broadcasted. The most careful hand cannot always equalize completely the amount and distribution of seed sown.—Drilled wheat is always allowed lateral expansion, even when sown too thick in the drill; and no one knows the perfection to which the “stooling out” of wheat can be carried. I have counted one hundred and one well matured heads, from a single grain, in drilled wheat.

Ninth: Wheat land, after being deeply plowed, should be harrowed, before the seed is sown; and,

after sowing, should be brushed or rolled. Harrowing breaks all clods, and brushing or rolling leaves the surface smooth, and presses the soil closely upon the seed, thereby hastening germination. Wheat, sown as it should be, between the 20th of October and the 15th of November, will, by the above treatment, have sufficient time, before the heavy freezes of Winter, to take firm root-hold upon the land.—Spring oats, sown during the Winter, does not require the smooth surface; with this grain a rough surface is sometimes beneficial, because the freezes will disintegrate the clods, and cover more deeply the tender roots. The wheat, however, by this time has advanced too far to be covered.

Tenth: The wheat crop is one not yet fully appreciated by the planters of the middle districts of South Carolina. The day is not distant, when we will prove to ourselves, that the wheat crop, one year with another, is more valuable than the corn crop, when consideration is had to the cost of growing either, including the time consumed and labor expended.

Respectfully submitted,

D. WYATT AIKEN.

For the Farmer and Planter.

BERMUDA GRASS---FOUNDER AND BLIND STAGGERS IN HORSES.

On page 74, No. 3, “An Old Grumbler” says: “The Bermuda Grass does not perfect seed in our climate, and is hence easily controlled.” This is a most serious mistake, for I can now show him seed enough to stock the State, even if there were not a stalk anywhere but on my places; and that seed perfected on grass grown from the droppings of the cows. It is one of the greatest curses that a cotton-planter ever had to encounter, for it requires three times the amount of labor to prepare a Bermuda grass-patch for cotton, and then it requires four times the amount of work to keep the crop in order. Neither will it do in our uplands for pasture. As soon as a field is thrown out, the grass will not grow high enough for pasture, but spreads its energies in making a mass of roots. Hogs will barely make a living on it. When ploughed up in the Winter, cows and sheep eat it greedily; but I do not think that it would pay even at that in the upland. To make it grow sufficiently high to be mowed, in the upland, would take as much preparation, and more manure, than corn. Put it in our rich alluvial river-bottoms, and it is all that can be desired, from March to November—but keep it from our poor, light uplands.

I do not know from what section “An old Grumbler” hails, but if he will take a ride over the

plantations on both sides of the South Carolina railroad, from the bridge over the Congaree, in St. Matthews Parish, I think his views will be much changed in regard to the Bermuda, Wire, Joint, or Doub grasses, and that he will join us who are blessed with it, in our hearty maledictions against those who imported it for use.

In the No. for July, "Curb" gives a remedy for founder in horses, which, he says, will beat Dr. Broyles' practice. I will not say that I can beat them both, but I will give the treatment that I have seen used, and used myself in a dozen cases, and have never known it to fail, or the horses' hoofs to be at all affected. "Curb's" practice will not do for a horse seriously foundered; for he cannot stand in the pond, belly deep—for he cannot stand or walk at all. My practice is to open a vein in each leg, and allow the blood to flow from them all at the same time; and, while bleeding, to immerse each foot in a bucket of water, as warm as the hand can bear, and bathe the legs to the body. Should the horse be down, and unable to rise, wrap each leg in a blanket, and keep the blankets wet with warm water. Should the weather be cold, keep the patient in a warm, dry stable; should it be in the Summer, keep him cool, but dry. Repeat the warm foot-bath every four hours; and when done bathing soak the hoofs with spirits of turpentine. Prepare a quantity of sassafras tea, and let him drink of it as much as he will—but it must be luke-warm; and give no feed, except green feed, if it can be obtained, and sparingly at that. There is great danger, in all founders, of the inflammation leaving the feet and determining to some more vital part; and I think that all M. D's and Veterinary Surgeons will agree with me that a belly-deep cold bath is not the thing for a patient with fever—for the horse is certain to have more or less fever with the founder.

I have seen a great many cases of blind staggers, and most of them terminated fatally. In the Fall and Winter of '52. there was a great fatality among the horses and mules, and I saw at least forty cases, most of which terminated fatally. I saw some cases cured by tying a bulb of garlic in the ears; but I think the cures were accidental. I examined some eight or ten carcasses, but, to my unprofessional eye, there was nothing wrong, until I opened the skull and examined the brain: in almost every instance *that* was entirely decomposed, and very offensive. The practice I adopted was: as soon as the disease was detected, (and when it has made its appearance on a plantation it can readily be detected, and that by any one who will take the

trouble, for the eyes become blue three or four days before the animal becomes very sick,) bleed to faintness, from the neck, or jugular vein, and blister the whole forehead. In four cases out of every five the attack will be at once arrested.

I have written you a very rough, but, I hope, plain statement of facts. Should you think them worthy of an insertion, and any one think them worth trying, I hope they may prove as successful for them as they have for
RIP.

For the Farmer and Planter.

ECONOMY IN FOOD FOR STOCK.

Few persons, it would seem, consider the amount of food wasted upon stock in plentiful years. Owning to the variableness of our seasons, we have bountiful crops some years, while in others, our grain crops are very light. So great, indeed, is the difference, that the crops of some years are double those of others; and, in those years of scarcity, we manage to make out very well—yet, in those years of plenty, we do nothing more than "make out."—Nothing is saved out of the abundance, but with full corn-cribs, we feel independent—everything is fed with a lavish hand—no effort is made to be saving of the corn crop, or to provide anything else, so that by gathering time, we generally manage to have empty cribs again, and we are really no better off than we are of scarce years.

I don't recommend starving our stock, as a matter of economy; no man takes greater pride in having fat horses, hogs and cows, than myself. But what I mean is, that we should try to provide something else for our stock besides corn. Only see what substitutes we can provide, when we think the corn crop is going to fail.

The drought has affected the crops generally, and in sections it has been very severe; and now everybody is on the look-out for turnip-seed, rye, barley, &c. They calculate that with plenty of turnips and one feed of corn a day, to fatten their hogs—here would be a saving of two-thirds, in fattening the hogs. Also, with a few acres of rye and barley, we expect to keep our horses on one feed of corn a day—a saving of two-thirds in horse feed, through the Winter and Spring. But, say we, cut down this calculation one half, and manage, by these means, to save one-third of the corn crop, and it amounts to an important item.

This lesson was taught us in 1845, but since then we have become careless again, until the turnip patches have dwindled down to a few messes for table use; and it will sufficiently explain the condition of the rye crop, in my neighborhood, to say that

I know of but one man who has any seed for sale, and he is asking \$3.00 per bushel for it. No barley in the neighborhood.

And, again, there is the Chinese sugar cane.—Very few farmers are disposed to give it the consideration it deserves. It was at first held out as such a wonderful thing—a new Eldorado in the farming line—that a prejudice was created against it, in the minds of many persons who were disposed to regard it as a humbug, and some, even yet, refuse to take hold of it. But I know that, for the last two years, I have kept 25 or 30 hogs in very good order on two or three acres of it, from August till October, and made a barrel or two of molasses besides.

Now, it is not my object to try to persuade my brother farmers to quit trying to raise corn, and take up with these things altogether. I would say, by all means, make the corn crop the *principal* provision for stock feed; and these others, I recommend only as auxiliaries, in helping out the corn crop.—And I venture to say, that, with proper attention to patches of barley, rye, turnips, Chinese sugar cane, Egyptian millet, &c., they will pay us double as much as the same labor bestowed on raising corn. Besides that, they furnish a great treat for our stock, and keep them healthier than they would be if fed on corn alone.

TRUCK PATCH.

From the Transactions of the Virginia Agricultural Society.

AN ESSAY

On the use of Compost Manures in Seeding Wheat with the Drill, and on Draining Basins on Table Lands, by Boring with the Post-hole Auger.

LINDEN, Oct. 18th, 1858.

EDMUND RUFFIN, Esq.—*My Dear Sir*: I have often reproached myself, because I have heretofore contributed so little to the annals of the Agricultural Society of Virginia. It has not been, as you know, from lack of zeal in the cause, but really because I have had nothing new, or that might not be found in books, to communicate. I have lately, however, adopted several practices in sowing wheat, which, if not entirely new, have, at least, not been generally pursued, which seem to me to be of public interest, and not unworthy of public record.—These practices are, 1st. Sowing wheat on corn land with the drill, without plowing; 2d. Sowing wheat with compost manures, in large quantity, mixed with guano, through Seymour's drill, with the attachment; and 3d. The use of the post-hole auger to bore holes to relieve the basins in our table lands from surplus rain-water.

Last Fall, for the first time, I adopted the plan of sowing wheat on corn land, with the drill, without plowing. This was done at the suggestion of a gentleman from Culpepper county, who told me he had successfully practiced it. The season was very dry, and the land somewhat baked, which rendered it

necessary to precede the drill with a heavy harrow. I was somewhat discouraged by the opposition of my neighbors, yet, nothing daunted, I proceeded until I had put in the entire corn field on this place, and part of a field on another farm. The wheat came up beautifully, and continued to grow in the most promising manner, until near harvest, when one field was destroyed by hail, and the other so damaged by mildew and other diseases that destroyed nearly the whole crop in this region, that the yield was greatly diminished. Yet I have no reason to be discouraged by the experiment. I had an abundance of straw, and should, doubtless, have had a satisfactory yield of wheat, but from the disasters alluded to. I am pursuing the same practice in the present sowing, and have already sowed the entire corn field on this farm, and shall proceed to use the drill on other farms to the end of the season. The wheat on the corn land here has already come up with great regularity, and I think promises well. The land, this season, being in fine order, the harrow has been, in a great measure, dispensed with.—When the field in corn has been cultivated flat, and kept clean, there can be no preparation more neat or efficient than drilling. The advantages of this practice are, 1st. That it encourages thorough preparation, and the neatest cultivation of the corn land, thereby greatly increasing the crop of corn; 2d. It saves more than half the labor of putting in wheat on corn land, which, as usually sown, is a very tedious and perplexing operation; and 3d. The sowing is more perfect than it can be done in any other way, without great labor. If the land is not clean, a hand should follow the drill, to remove any briars, &c., that may infest the field, and to cover any grain that in such spots may be exposed.—When the land is clean, however, this is entirely unnecessary; the wheat will be much more effectually covered than it can be by the harrow or any other implement, except the plow. I would not recommend this practice, however, except where the land has been well cultivated, and is soft and friable, as upon good loams.

Two years ago I paid eighteen hundred dollars (\$1800) for guano. With short crops and falling prices I found it inconvenient and inexpedient to incur again this heavy tax, and I determined to look around for some cheap substitute for guano, and to use the drill to economize the guano that I might purchase. Accordingly, last Fall, I bought five tons of guano, and contracted in Alexandria for two thousand bushels of ashes, which I had heard had been used with success through the drill in Fauquier and King William. I ordered at the same time, from Baltimore, Bickford and Huffman's Drill.—Owing to the great demand, my order could not be filled, and I was under the necessity of purchasing from Rollon & Eastham, in Fredericksburg, Seymour's Drill, which turned out to be precisely the thing I wanted, and for my purpose seems to be a perfect implement. Only 600 bushels of the ashes could be supplied. With five tons of guano and six hundred bushels of ashes, I had to perform the almost impossible task of manuring for a large crop of wheat. The best portions of the fields were sown broadcast, without manure, and I set about with all diligence to procure materials for the drill to supply

the place of the guano. The farm yards, quarters, and every spot where fine manure could be collected, were explored, and all the enriching materials that could be found scraped together, and after being sifted well, mixed with guano, and prepared for the drill. In this way I collected manure enough to dress about one hundred and seventy-five (175) acres. I applied about ten bushels of the compost to the acre, and found, when finished, that I had used an average of fifty-six pounds of guano to the acre. The crop, as before stated, was extremely promising, and I have no doubt, but for the disasters of the last season, the result would have been entirely satisfactory. A portion of the guano was applied broadcast.

In order to keep better prepared for this season I set about collecting materials for compost as soon as I had finished hauling out the Spring manures. The yards were scraped, ditches scoured, and all the materials suitable for the purpose, were hauled together at odd times, and put under shelter in a cow-house in the stable yard, and, as the pile increased, from time to time the liquid drainings from the stables, from the reservoir in the stable-yard, were poured on it, and ground plaster sprinkled over it. All the liquid manures from the laundry, kitchen and house, were used in the same manner. The result was, that, at seed time, I had a bed of the richest compost, containing more than a thousand cubic feet; and being very compact, when cut down with the spade and sifted, it furnished largely over a thousand bushels, ready for the drill. With this compost, and such additional materials as were collected from the quarters, &c., &c., I have this season drilled on this farm one hundred and twelve acres, using from 60 to 70 pounds of Kettlewell's Manipulated Guano, and from ten to fifteen bushels of the compost has been applied to the acre. The drill has put in, up to this time, one hundred and thirty acres, and will, during the season, put in more than two hundred. It is now at work on my farm, on the Potomac, and for want of prepared compost, I am using finely decomposed salt marsh earth, from the banks of a large ditch, dug through the marsh some years ago. I visited the farm yesterday, and found that this material, with the scrapings from the quarters, and the usual proportion of guano, make a very rich looking compost for the drill. Farmers on tide water have, in this material, an inexhaustible source for the manufacture of the richest compost. If my experiments should turn out successfully, I shall save, in the cost of guano for two hundred acres, about eight hundred dollars, (\$800), and the labor saved in using the drill instead of broadcasting, will, I think, be equivalent to the labor of preparing and applying the compost.—The wheat drilled with ashes and guano did not produce as well as that dressed with guano and other manures, used with the drill last season. For that reason I purchased no ashes this year, but have relied entirely on my domestic compost. It is unnecessary to remark upon the great saving to the people of the commonwealth, which must be the result of this practice, should it prove successful, and become general. The compost requires a sieve somewhat coarser than that commonly used for guano. A cheap and admirable one may be made

readily with a box of pine plank two feet square and six inches deep, the bottom to be checked with chalk with squares of an inch, and a hole bored with a half-inch brace-bit at each intersection.

The hole is to be smoothed with a heated iron-rod. Seymour's Drill is much the best for this purpose that I have seen. It sows the wheat with perfect accuracy, in any desired quantity, and will distribute from one bushel to thirty of compost to the acre, if it be fine and dry, and is readily adjusted, that the quantity distributed may be changed without appreciable loss of time, even in the same row, so as to accommodate the manuring to the varying quality of the land. The tines are heavy, and do their work effectually, even in rough land. I use four horses to give steadiness and power to the machine, though two would work very well in a clean fallow.

I have for years observed, that the wheat growing on the bottoms or basins of our table lands, although they seem dry, is frequently injured by surface water, and Winter-killed. These spots cannot be drained by ditches, and the deepest plowing is only a partial remedy. It occurred to me that holes bored to the depth of several feet with the post hole auger, would enable the rain to pass off through the sandy substratum. I accordingly procured one, and have caused all the low spots in my wheat fields here to be bored to the depth of about four feet. I found the first two or three feet exceedingly hard and impervious to water, but at between three and four feet below the surface, a porous sand is reached, through which the water will readily pass. The result is yet to be seen, but I have no doubt of the success of the operation. Such spots have been sometimes drained by sinking small wells, and filling them with stones, within a foot of the top. This involves labor, and in Eastern Virginia we have no stones to fill the wells. Elkington, in his system of draining, used boring extensively, but it was mainly for the purpose of tapping secret springs, and drawing off the water, on the principle of the artesian well. I am not aware that boring with the post-hole auger, to let off surplus rain water, through a porous subsoil, has heretofore been practised. The auger makes a clean hole, about eight inches in diameter, and four feet deep.

Please, my dear sir, present these suggestions to the Society, for what they are worth. I shall be most happy if they should prove of any service to the agriculture of Virginia. I remain,

With sincere respect and esteem,

Your friend,

WILLOUGHBY NEWTON.

SMALL FARMS

Small farms in the vicinity of large cities, with every varying demand for products, are well calculated to be the means of developing superior modes of culture, etc. Their occupants often find themselves subjected to heavy taxes, assessments and increased rents from increased value. Habit renders them unwilling to change their vocation or location, and necessity demands increased results. All these causes tend to develop greater activity both of mind and body. Hundreds of such instances may be seen about New York; indeed, many, after being

compelled to sell half their farms, to pay assessments, have realized larger profits than before, with a decreased area for their operations. In looking over our own operations of the last year, we find that three-quarters of the nett profits of our farm have accrued from one-fourth of its area, and that fourth part precisely where we have thoroughly underdrained, subsoil plowed, fully fertilized, and expended the greatest amount of labor in continued manipulations of the soil. Whatever may be the size of a farm requiring improvement, we would advise any other in preference to the gradual system. If the occupant has not enough capital, or cannot furnish the necessary labor from other causes, let him break up no more land than he can thoroughly repair each year. If more cannot be done, at least under-drain, subsoil plow, and fully manure one acre, and this acre at least will be ready for the raising of high priced crops, while each acre in turn may be similarly improved. Suppose one acre so improved, and appropriated to cabbages or other crops, capable of being sold for \$1,000, how many acres partially improved will this one acre represent? The next year the profits of this acre will furnish means to thoroughly and not partially improve two or more acres, and thus in time the whole farm will reach its maximum condition. Some market gardeners on Philadelphia neck, Harsimus and elsewhere, pay \$50 per acre rent, and use \$75 worth of manure on each acre per annum, and yet make money. Cannot many farmers near large cities put part of their farms to such uses, and as soon as other parts can be put in similar condition, put the first portions improved to farming crops, having made all the cost of the improvements from former crops current with the improvement. May not the whole farm be thus improved, and when put into full condition, who doubts that farming will be profitable?

We do not offer this as mere theory, but know it practically; we have so done on our farm, and it is open to the inspection of our readers at all times.—There is no necessity for expending \$75 for manures, for this may now be done for \$15, if judiciously performed, and the whole expense of permanent improvement may be earned in the current three years while being done. Those who dislike the raising of the more valuable crops, known as truck or market crops, and who wish to confine themselves especially to standard crops, must be contented to improve fewer acres in the same time, but still they should not spread their capital and their energies so thinly over an immense area, as to require a life-time for its realization. Land cannot be improved from an inert condition, without first raising such crops as call for much manipulations of the surface, so as to eradicate weeds and ameliorate the soil. Many may avoid market gardening if they desire, by raising carrots, beets and other crops, which they may feed to cattle with profit, fattening stock, selling milk, &c.; but this must be done on the system of thorough tillage, so that when the whole farm is once gone over in this way, the whole will be permanently improved for a life-time, for the raising of staple crops. Who should be contented with two tons of hay to the acre, when his neighbor can raise three tons? Is not the profit on three

tons more than double that from two? Are not all the expenses in both cases borne by the first two tons? And if one ton will not more than pay these expenses, then three tons pay double the profit of two. This is true, in degree, of all crops, and the thorough farmer, who pursues high farming, can alone be successful for the future.—*Work'g Farmer.*

NIGHT SOIL—ITS DEODORIZATION, &c.

The food of man, being chosen from the more progressed organisms, has its constituents in a condition to be readily appropriated by the higher class of plants—and it is for this reason that the excreta of man surpasses all other manures, and produces effects which, analytically, cannot be fully understood. One of the proximate results of its further decomposition, however, is unfriendly to vegetation, and, therefore, deodorization is necessary before its use—we refer to the sulphuretted hydrogen.

There are many methods by which the deodorization of night-soil may be performed in the well-hole of the privy, and such are more valuable to the farmer than other processes, requiring removal before deodorization.

Slight waterings of dilute sulphuric acid once a week, or once a month, will change the ammonia to the non-volatile sulphate of ammonia. Dried and pulverized clay, sprinkled frequently on the surface, will thoroughly deodorize, and when intended for use on sandy soils, this practice is the best, as both the chemical and mechanical conditions of sandy soils are thus improved.

When charcoal dust can be procured, its free use will completely deodorize a privy. This may be had in many ways. Near the depots of railroads the sparks thrown out at the end of each trip, from the locomotives, are in most perfect condition for such use, and the quantity which may be thus procured is very large. The New Jersey depot at Newark supplies farmers with more than a cord per day.

In parts of the country where charcoal has been burned, the old charcoal hearths furnish an abundant supply. In the vicinity of distilleries, where whiskey is rectified, the spent coal from the leach tubs may be had at little cost.

Muck, peat, river mud, etc., which has been decomposed by the lime and salt mixture we have so often recommended, may be used instead of charcoal dust for deodorizing privies, and, indeed, even woods earth, or any black earth well charged with carbonaceous matters, will in a degree answer the purpose. Plaster of Paris (sulphate of lime,) may be used in connection with other materials, but by itself it is not very effective. Soils requiring plaster should receive it through the privy, compost heap, etc., so as to avail of both its use as a retainer of ammonia and as food for plants.

When the well-hole of a privy is so arranged that its deodorized contents may be readily removed, it becomes a valuable adjunct to the farm, for large quantities of the divisors recommended above may find their way to it, while all the house wastes of all kinds may be led there by under-ground gutters. Soapsuds, kitchen wastes, etc., all have their value, and in many cases these are ruthlessly wasted.—*Working Farmer.*

USEFUL INFORMATION ABOUT TIMBER.

Felling Timber.—In Silloway's little work on "Modern Carpentry," we find some very useful information on the treatment and care of timber designed for building purposes. As such knowledge is of great interest to our people in every section of our country, their attention may very properly be directed to it at any time. We will, therefore, present the substance of what the author referred to says, in regard to three topics, namely, felling, seasoning and preserving timber. Ancient architects paid great attention to the periods for felling timber, and old Vitruvius gives the sage advice never to cut down a tree but during the waning of the moon. His opinion on this head may be nothing better than moonshine; but agreeing with him, it is generally conceded by all those skilled in timber, that trees designed for building purposes should never be felled before they have reached maturity; still it is not easy to decide when they have arrived at this stage. It is considered, however, that oak and chesnut should never be cut before they attain one hundred years, and spruce and pine seventy years. When a tree is observed to cease increasing the diameter of its trunk, and when it loses its foliage earlier in the autumn than previously, it is a sign that it has attained to maturity, and is of sufficient age to be felled. The season of the year most favorable for this is another important question. In New England, August is held to be the best month in the year, as at that period the sap has been exhausted in forming the leaves and new wood, and the trunk is then much drier. The period when the wood contains the least sap, in whatever part of the year this may take place, is, undoubtedly, the best time for cutting timber. It was the custom with the early architects of our country, in order to obtain durable frame timber, to bark the trees near the butt, while standing, in the spring, and cut them down in the succeeding winter. By this means the sapwood became hard, and as strong as heartwood; and timber so treated was much better than that cut down and dried with the bark on. By barking the trunks of standing trees in winter, and making incisions just above the root, then allowing them to stand till August before being felled, they make very superior timber, both as it regards strength and durability, in comparison with trees not so treated. In felling trees, all the branches on the side of the trunk which is to fall on the ground should be removed, if possible, because when these strike the ground they wrench the timber of the trunk, and cause it to become shaky, by splitting the grain.

Seasoning Timber.—Nothing tends to improve the usefulness and durability of timber more than thorough and proper seasoning. The object of this treatment is to remove the free moisture and sap. For this purpose trees should be sawed soon after they are felled; but if this is impracticable, the logs should be barked and laid upon scantlings above the ground, to let the air circulate under them; or else they should be rolled into the mill pond. Logs should not be exposed to the hot sun in drying, as they are liable to split; they ought, therefore, to be kept in the shade, or be covered with brushwood. As soon as planks, boards, or scantlings are sawed,

they are to be piled up in the shade, and allowed free circulation of air through them. It is also recommended that they be immersed in a running stream of water for about a week, to wash out the vegetable albumen; but some assert that timber so treated is not so strong as that in which the albumen or sap is coagulated by steam heat or warm air. Care should be exercised not to dry timber too rapidly, as it is liable to crack by the rapid expansion of the moisture and the sudden contraction of the fibres. In piling timber, it should be laid in such a position, when green, that it will not wind or twist, as it is liable to keep the position it assumes when drying, after it is seasoned. The strips of wood placed between the boards in a pile should be laid as close together as possible, and be of equal thickness, so as to have each tier perfectly level, to prevent them bending. It is also found essential to keep stacks of boards, while seasoning, out of the reach of strong winds in the hot days of summer. These directions are given for the common method of air-seasoning. Artificial heat and steaming will facilitate the operation, but special apparatus is required for this purpose. Large sticks require longer time to season than boards, but no exact period can be laid down as a rule; all depends on the weather. It is only by an examination that a decision regarding the quality and seasoning of timber can be arrived at.

Preserving Timber.—In common seasoned timber there remains a certain portion of sap, which, when the stick or board is shut up in moist, stagnant air, is liable to become heated, especially in summer, and to ferment, by which action the wood rots. In no instance, therefore, should a piece of framing be so enclosed that fresh air cannot come in contact with it. To every roof, spire and dome, there should be holes at such points as will insure a continual circulation of air about the timbers. Wood should also be protected from alternate moisture and dryness, as these changes induce rapid decomposition and decay. A piece of timber immersed in water at the bottom of a river will continue unchanged in its nature for centuries; and we have really seen logs taken from the bed of a stream, in which they must have remained for hundreds of years, and the timber was apparently as fresh as when first submerged. Wood exposed to continuous heat, such as over an oven, loses its elasticity in a comparatively short space of time, and becomes very brittle. If the surface of timber is entirely protected from the action of the oxygen of the atmosphere, it endures for a very long period. This is the reason why wooden pipes, buried in the ground in a compact soil, do not decay for many years, and why logs immersed in water remain fresh for centuries. A thin solution of coal tar and whale oil, applied warm to the surface of timber which is to be placed near the ground, makes an excellent protective; and if this is put on in three successive coats, and sifted dust from a blacksmith's forge then strewed over the entire surface, the timber is rendered scarcely susceptible of decay. This preparation can be easily applied to fence-posts and sills of houses by any person, as it requires no special apparatus for the purpose. In all framing exposed to the weather, every mortice hole capable of retaining rain should be closed up with

tar, or some other repellant of moisture. It often occurs that the wood at the lower ends of posts and rafters of roofs and church steeples is found to be decayed, while the other parts of the structure are perfectly sound. In almost every instance of this kind it is found that rain has passed down and filled up the bottom mortices. A solution of one-and-a-half ounces of corrosive sublimate, dissolved in every gallon of water, and applied warm to wood intended for framing, is also an excellent preservative. Good timber, thoroughly seasoned and washed with corrosive sublimate, and afterwards properly painted, is very durable. It often happens that paint is applied to timber before it is thoroughly seasoned; this is wrong, as it tends to promote decay by preventing the evaporation of the sap. Some persons suppose that large timbers endure longer than small ones, but this is a mistake. The small spokes of a wheel will generally be found sound after the tongue of the wagon to which they belonged has become completely decayed. Every portion of a beam or post of timber in a frame should be carefully protected, for, if rot commences at any exposed place, the whole stick is injured thereby, as the decay spreads in all directions; and the strength of any beam is just equal to that of its *weakest* part.—*Selected.*

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From the *Prairie Farmer*.

SURFACE DRAINAGE.

Our attention has been called to the importance of this subject by a friend. And said friend is correct, where he says, "I can hardly believe that any farmer of ordinary means will ever underdrain profitably till he can appreciate and value surface draining." We see broad, level fields of grain, as we pass through the country, containing hundreds of acres, without a "dead furrow," much less any surface ditches. These fields have a compact, vegetable, surface soil, with a still more impervious clay subsoil, that holds water like a basin, and retains it on or near the surface, exposed to the influences of sun or frost. The results to the crop are necessarily disastrous. "My soil is so wet, my wheat is covered with water, and I fear I shall lose my crop," says the farmer. There is danger of it, and yet in nine out of ten cases, no effort is made to get rid of this surface water—not even the little and ordinary effort of plowing deep furrows into which the water may drain, even though there be no outlet to them. But the *time* to make provision for this surface drainage is when plowing the ground for a crop.—And it may be done then easily, in such a manner as to present no material obstructions to the progress of the reaper, for it is not a little remarkable that some men prefer to risk losing a crop rather than subject themselves to a little inconvenience in harvesting it. Others are thoughtless, and when the plowing is performed, the ground being dry, they make no provision for a wet season. The hollows and wet places have no furrows leading from them; and when the rains fall, the wheat plant in those places remains under water until it (the water) escapes in the atmosphere by evaporation. We have seen farmers that would discharge an employee who would leave a field without providing for the disposal of surface water with his plow. And the

farmer who does not require or make such provision ought to be kicked out of the profession.

Within a week, during a trip in the country, we have seen fields of spring grain that have suffered, and will prove failures, from no other cause than this want of surface drainage. We are told, in some instances, that wheat has turned to weeds; or, in other words, the wheat fields are fields of weeds.—We have examined some such fields, and in nearly every instance, it is true, that there are wheat stools enough to cover the ground had the plant not been killed by standing with its feet in water, while the water-loving weeds have flourished. The ground lies dead, and cold, and wet. Not a furrow to be discovered. Now, such negligence deserves such results. And we shall be obliged to record such results, so long as farmers persist in neglecting to provide for the escape of the surface water. Providence is charged with the results of our neglect too often. God has created us, and made the earth, and given us of the fruits thereof, and it is just as reasonable to complain that he does not plow our land, and sow the seed, and harvest the crop, as it is to complain of the season when we make no provision for the regulation of the use of the rain which falls on the just and on the unjust.

Preparation, we have said, commences with the plowing. Plowing for the Fall seeding of wheat has already commenced in some parts of the Northwest. As pertinent to this subject, we copy the experience and practice of a farmer, as we find it in the February number of the *Northwestern* (Iowa) *Farmer*. The manner of plowing described is a favorite one with us, for we could do better work, and more of it, than in any other way. A botch plowman had better not attempt it, for to plow economically in this manner, furrows must be straight and regular. But read:

"The remedy I propose is this: First, plow with a view to draining the surface in the most effectual manner. I have adopted the following plan: I have laid my ground off into forty rods square, containing ten acres each. These I plow in twenty lands, containing a half acre each; the lands are two rods wide and forty long. I back-furrow altogether, commencing in the center of a land and plow around until it is finished. I plow two years in this manner, and every third year divide and make lands one rod wide, or a quarter acre in each land. In plowing in this manner my team never treads upon the plowed ground in turning; this leaves the soil loose and lively at the ends, and no basins to contain water—the half acre open furrows conduct the water off entirely, and leaving the soil in dry, high-raised beds, as effectually as if done with a spade. The team will work easier, and will do from one-fourth to one-third more labor in the same length of time; besides, the plow is much easier on the holder, never having to lug the plow at the ends of the land. This favors boys much.—If I use but one team, I prefer the left hand plow, but if I use two teams it is most convenient to have one left and one right handed plow.

"This system of culture will work wet lands dry, and will make level lands as productive as sideling lands. The half-acre open furrows will as effectually conduct the water off as if a ditch had been

made with a spade. The half-acre lands will gradually assume a conical shape, and should be kept so. Every third season the plow should run quite deep, so as to pulverize the soil to the depth of eight or ten inches. At this plowing corn is the most appropriate crop. There is still another convenience resulting from keeping the lands in half-acre pieces: in sowing, you can easily sow any quantity of seed to the acre you desire; also, you need no stakes to sow by, the lands themselves being sufficient guides. Much is said and written these days on the subject of under-draining. Now, I think, farmers would do well to pay a little attention to upper-draining before they incur the expenses of under-draining; not that I doubt that under-draining is of great advantage, but upper-draining costs nothing, and is within every man's reach. I think every farmer should commence at once and adopt a system that is convenient in every view of the case, and costs nothing. It may be, that there are many who think these suggestions of slight importance. These I can assure it is only a difference of opinion, and that, having thoroughly tried the system of hap-hazard cultivation, I am fully convinced the views I present are correct. I am satisfied that twenty-five to thirty-three per cent. increase of crops will be gained, especially on level land. Who do not know that flat, basin-like prairies, that hold water during the Fall, Winter and Spring, are backward, wet and cold, and are nearly worthless for any kind of crops—especially if the season is wet. I am fully satisfied, since I have adopted this method of culture, I have gained at the above rate in crops. I would not fall back upon the hap-hazard way of cultivation on any consideration.

"I use two poles, one at each end of the lands, that measure eight feet three inches, and upon the ends of these poles I tie a white or red cloth.—These poles answer to measure with accuracy, and to plow to. I first measure off one rod at each end of the piece, and commence plowing on through, and then take the pole and measure off two rods for the next land, and so on, moving the poles two rods over on the unplowed land, when they come in the way of the team. This is convenient, accurate, and easy; and I think when a person once gets the hang of it, he would not think of departing from it.

W. G. CLARK."

From the American Farmer.

WHEN AND WHY FARMING IS UNPROFITABLE.

MESSRS. EDITORS:—Every man who has a fondness for any particular branch of industry, reads diligently, and cautiously ponders on what he reads, must sooner or later obtain a fund of information, useful to himself assuredly, and very probably, if rightly communicated, useful to others similarly interested. I am one of those who read the *Farmer* with much interest, reflect a good deal on what I read, and without much difficulty form opinions and conclusions, satisfactory at all events to myself, and sufficiently important to be well considered by others, if not adopted as incontestible truths. The friction of clashing opinions is even in itself useful, because it brings out sparks and rays of light, illuminating the darker points of vegetable mysteries.—

It sets men thinking, and when once we get them to think seriously, they become more and more rational, less and less mere machines.

There is a great deal of farming done in Maryland (and no doubt in other States) carelessly, and almost without a reason, unless the latter be that it involves the least trouble. There are far too many very careless and thoughtless in the performance of necessary duties, upon which they depend for a living. They are *very* industrious, up late and early, pushing and driving all day long. They ought to be successful and well to do farmers, enjoying the comforts and *luxuries* of the farm, happy and contented. But such as these are not in any sense contented or happy, not prosperous, have no comforts, are wholly strangers to luxuries. They labor hard, and are very sanguine, but results are not up to expectations, and in nine seasons out of ten the debit foots up larger than the credit side of their operations. Their farming is not at all *profitable*. If not profitable, if the comforts and luxuries of the farm are *minus*, notwithstanding *all* the labor, may we not enquire *why not?* and answer the question fairly?

In all occupations there are types of a class, varying a little from each other, but still sufficiently alike to form the basis of our observations. These are the "*careless industrious*" men, of whom we mean to say something, we hope, for their benefit, though the hope is not a very sanguine one. They are generally "wedded to their idols," and not easily convinced or reformed. Early habits are their controlling deity, and they usually worship at *that* shrine until death closes their career forever.

There are a great many farms in Maryland very indifferently cultivated—*carelessly* so; there are some in each county properly and carefully attended to. In the one case there is no system, in the other it is all system. In the first, the dwelling is generally out of repair, the out-buildings no better, and not enough of them, the fencing poor, and the gates poorer still. Along the fences a vigorous crop of weeds and bushes luxuriate, and in the lots a liberal sprinkling of brambles and briars persistently grow. The implements of husbandry are generally left exposed to the weather, day and night, rain and shine; and all about can be found the broken pieces of plows, spades, cultivators, &c., thus seriously damaged by hard and careless usage. Most frequently there is no garden attached to these places, or if one, it is a garden of grass and weeds, with here and there a spot upon which a few peas, cabbages, or tomatoes struggle hard for the mastery.—Disorder reigns over everything in the house and out of it, and where the most comfort and rational enjoyment should be found, there is the least. Why is it? To what shall be attributed these misfortunes, for they are really such? Not to idleness, for the farmer is a *very* industrious man. He is up early, has his hands out, and keeps pushing and driving them under high pressure. He drives himself at a 2.40 gait, works hard, and ought to be prosperous. But he is *not* prosperous, because he is the victim of controlling habits of extreme carelessness. It is the pestilence that clings tenaciously to him, the evil spirit of his life, the mildew that so often destroys his fondest anticipations. There is no place

for anything, nor anything in its place, and the whole family have fallen into the pit, for all are "chips of the old block." "*Facilis descensus Averni*," and idleness is very frequently added to the carelessness of the children. If the head of the family then be thus unfortunate, it cannot be surprising that the whole becomes more or less like the parent stem. Go into the house of our careless friend, and you will perceive in every direction evidences of a thriftless waste. Nothing is cared for as it should be. Comfort has long been unknown. Economy is considered a necessity, and duly insisted upon, but it is practiced on the principle of saving at the spigot and let the bung-hole leak.

Does some one say this picture is too highly colored? Let him travel as I have done, and use his eyes and ears, then very likely he will have discovered where the real truth lies. He will too frequently see that industry is often useless—that it is paralyzed by excessive carelessness, and a neglect of the minor details, so essential to successful farming. Nor is it alone to these lesser points that so much misfortune is attributable, for very frequently greater ones are heedlessly passed by. Attempting too much, generally ends in accomplishing too little. As a general thing, the farms in Maryland and Virginia are *altogether too large*. The pride of owning a big farm is too dearly paid for, unless there is abundant capital to back it. With ample means to command labor, and to give back to the soil rather more than is taken away, large farms can be profitably cultivated, and kept in proper order. With no dependence but the farm, 200 acres is amply sufficient, 50 of these to be in timber. Divide the rest into six fields of 25 acres each. With these, and a careful rotation, plowing under a heavy growth of clover and buckwheat at the right time, with *plenty of manure for the corn*, the soil will repay all, and more than is put upon it, and gradually become rich and fine. Of course lime, plaster, and other fertilizers, are not to be forgotten as indicated, nor a careful *preparation* of the soil for the seed, by deep plowing, subsoiling, harrowing and rolling.—Let there be no hurry about anything. Don't plant corn the first of April, or wheat early in August.—Keep as much good stock as can be kept well, and make all the manure possible. Have out-buildings in good order, even to the poultry house. Don't neglect the garden—it is worth some attention.—Don't scold the wife for faults of your own committing. Let everything be done in order. Be industrious, but especially careful to avoid that kind of industry so lamentably neutralized by carelessness.

KENT.

From the Southern Cultivator.

USE OF GUANO.

SPARTA, GA., July 1st, 1859.

REV. C. W. HOWARD—*Dear Sir*:—You wish me to answer the following points in your correspondent's letter: He does not seem to understand what I meant by saying I had not used the same quantity of guano per acre any two years. I commenced using 75 lbs., and have gradually increased the quantity each year up to the present time to 175 lbs. per acre for cotton; 75 to 100 lbs. per acre for

corn; 75 to 125 lbs. for wheat and oats; 400 lbs. for turnips and potatoes. Mr. Jarret wishes to know how I get the 5 per cent. of potash in the land plaster. Mr. Samuel Sands, of Baltimore, Md., as I stated in a previous letter, is my agent, and whatever I wish in the way of fertilizers, I order from him. Mr. Sands will have any per cent. of potash added to land plaster that you wish. Mr. Jarret wishes to know why I recommend using guano free for cotton. It is because cotton is the best paying crop. Using guano for cotton the last of March and first of April; commence selling cotton in September—in 6 to 9 months you will have the money invested in guano back with the profits. 2d. Cotton does not exhaust land. There is very little inorganic matter sold annually from a cotton field—the principal loss in making cotton is the clean culture, the soil washing off and leaching by heavy rains.—Guano is a partial remedy for that—it will lessen the season of plowing two to three weeks, by making the cotton that much more forward, and producing double the quantity of litter to plow in for the next crop, in leaves, cotton stalks, seeds, &c., which will protect the land the second year somewhat.

By using guano free you may curtail the number of acres cultivated.

To get the full benefit of guano, land must be rested, to grow weeds and accumulate vegetable mould. Also use it on the pea crop for the same purpose.

Peruvian guano, under a bad system, will exhaust land. The mixture I recommended, which was published in the *South Countryman*, under a good system, will make land rich.

The use of guano is objected to by some, thinking it lessens the interest in home-made manure. It should be made the means of doubling the home-made manure, increasing the cotton seed one-third, doubling the wheat and oat straw, producing twice the quantity of weeds when land is at rest, and double the quantity of peas and vines, and the more of all such manures produced and saved, the better guano will pay. I am in favor of making the land produce double what it does now, instead of doubling the number of slaves by the importation of wild Africans. Double the productiveness of the land, and it will be worth four times the present value.—Double the number of slaves and the price will depreciate one-half.

You are laboring hard, and to the point, in the *South Countryman*. There is one more subject I would like for you to embrace. We want more manure, and the cities of Georgia can furnish part of it, in Super-phosphate of Lime and Poudrette, and add greatly to the health of the places. Cannot you induce some persons to undertake it?

The planters of the South ought to take at least 20,000 copies of your paper; and, rather than your enterprise should fail, you may set me down for ten numbers.

Those who wish to be well posted upon the guano trade, should take S. Sands & Mills' Rural Register, Baltimore, Md.—24 numbers per year for one dollar. They will find it a valuable paper.

Yours, very truly,

DAVID DICKSON.

From the Country Gentleman.

THE FOOD OF PLANTS.

MESSRS. L. TUCKER & SON.—In your paper of the 14th of July, J. B. C. wishes answers to several questions on manures, and their effects on vegetation. Permit me to make a few remarks that may, perhaps, in part, answer his questions, or at least be interesting to him, and some of your other readers.

"Liebig, in his Principles of Agricultural Chemistry, lays down the whole action of manures as food for plants, reducible to the following propositions:"

1st. The condition of all manures to be appropriated by plants, is "solubility." You may spread animal charcoal over the soil by tons, and the plants will derive but little phosphoric acid therefrom.—Pulverise the Feldspar rock to powder, and its potash will not be yielded up to the tender radicles of plants. If your fields contain eighty-five one hundredths of silex, your corn and wheat may never mature, for want of silica. "The animal charcoal must become super-phosphate, by action of sulphuric or carbonic acids. The feldspar must be changed to carbonate of potash, or a silicate of some alkaline base, before plants, with their delicate appetites, will taste them."

2d. "*Durability or Solubility*," by its very essence, becomes a very temporary condition of the soil, unless the latter contains such elements as will retain soluble or dissoluble food of plants, or such as will but slowly prepare it, by *chemical change*, to become soluble in only sufficient quantity for their use. Upon a porous, sandy soil, you may pour the richest elements of vegetation in profuse abundance, and they will need constant renewal. Each year of enrichment leaves nothing for the next. But give that ever hungry soil a fair proportion of carbonaceous matter, in the shape of *prepared peat or charcoal dust*, or of aluminous matter, in well divided and pulverized *clay*, and its hunger is easily appeased; it will retain for years something of all which you may give it.

3d. This condition of manures is communication or complete mixture with the particles of soil. No amount of the richest manures will produce the maximum of vegetation, or even mediocrity, if the soil to receive them is not rendered pulverulent by tillage, and the manure reduced to its finest divisibility by trituration, handling or decay; there must be contact of each sensible particle of manure with particles or proximate atoms of soil, to produce a high result. Thorough pulverization of soil, and liquifying of manures, together with a complete and perfect mixture of the two, are *absolutely necessary for the best use of manures*.

We then derive these *general laws* which govern the action of manures upon vegetation, "as useful," though not as sublime as Kepler's great laws, which govern the heavenly bodies. Premising that to find these laws useful to us, we must first know what *elements of vegetation we need, by analysis of the soil*, or by careful observation.

"*Law 1st.*—All plants derive their nutriment from solutions or gasses, (and solubility is a necessary of gaseous formation,) and the manures are valuable in ratio of their solubility, or the chemical condition of the soil to render them so.

Law 2d.—Manures must be either capable of solution, or reduced to the gaseous state *only* in the quantity needed by plants, or the soil must be fitted to absorb and retain or neutralize them.

Law 3d.—Every sensible particle of manure must be divided from another, by sensible particles of soil, by manipulation or liquefaction. Or, in other words, the soil and the manures must be thoroughly commingled and intermixed.

Lastly.—That the nutrition, the growth, and the developments of a plant, depend on the assimilation of certain bodies, which act by virtue of their mass of substance."

Five things seem, *at least*, to be necessary to the healthy growth of plants: air, soil, heat, water and light. Deprive them of either of these, and you stunt, weaken and wilt them. The leaves of trees expose thousands of square feet of surface to the passing currents of air, that they may feed upon the thousands of particles it contains.

Plants always contain some or all of the following simple substances: oxygen, hydrogen, nitrogen, chlorine, carbon, potash, soda, lime, alumina, magnesia, iron, manganese, silex, sulphur, and phosphorus. Now how shall we get these fifteen articles into the plants? Oxygen is in the atmosphere and in water; the plant then can get it from either or both. Hydrogen is one-ninth of water; the plant can get its hydrogen from water. Nitrogen is found in the air and in the soil; the plant can therefore be fed from both these sources. Chlorine is found in most soils, and where it is known to be deficient, or supposed to be, a sowing of common salt will obviate the difficulty. It is quite possible that our soil is somewhat deficient in this ingredient. If we apply salt, however, we must not be lavish with the article. Carbon is found in the air, and is essential to all plants. Potash is found in the soil, and can be increased by an application of wood-ashes. Soda is found in the soil, and may be increased by the application of wood-ashes and common salt. Lime is found in the soil, and is essential to the growth of most of the plants. Alumina is also found in all soils in sufficient quantities for the use of vegetation. Silex is generally found in the soil, in the shape of sand. I suppose it is never injurious in itself, but, where too abundant, may exclude other elements necessary to the well-being of plants. A good application to a sandy soil is clay, and so *vice versa*. Sulphur is found in the soil and in the air, in the form of noxious and offensive gases. It can be increased with plaster of Paris. Phosphorous is found in the soil; it enters largely into the composition of bones, in the form of phosphate of lime.

It will be perceived that four of these articles are found in the air—oxygen, hydrogen, nitrogen, and carbon—these, therefore, we cannot control; but for our comfort, it ought to be remembered, that of these there is no lack. Eleven of these are found in the soil; these we can control.

We assume, then, that a plant is fed by means of the roots and leaves, and in some cases by the bark. The leaves will generally feed themselves without our assistance. It is our business, however, to have a full supply of leaves, not only for shade in our bright climate, but also for feeders. Both gases and water reach the roots, in *properly prepared soil*.

The soil for such purposes should be made very porous. Common sense dictates such a course of cultivation, and common observation confirms the theory by a multitude of facts. It seems necessary that we should stir and pulverize the soil, not only that the roots may spread themselves, but that the food of plants, which exist in various gases, and in water which descends from the clouds, may permeate and percolate in every direction, that they may reach the roots, and the plants be nourished. The supply of food in the atmosphere is always abundant; that in the soil can be made even superabundant by a proper application of manures.

GEO. TROWBRIDGE.

From the Southern Cultivator.

THE WHEAT WEEVIL, OR MIDGE.

In a recent visit to the farm of a friend in Baltimore county, we noticed in a field of white wheat, that the red weevil had taken possession of it, and the owner was apprehensive that the damage would be so great, as to make the grain in this field almost worthless. In the red wheat it did not appear to have made a lodgment. In other parts of Baltimore county, and in Hartford, we learn this insect has done much injury this season. We regret to see its appearance in this direction, as we apprehend it will be found to be a scourge which it will not be easy to get rid of. In some of the best wheat districts of New York, it has been so destructive that the culture of wheat has been nearly abandoned, and other crops substituted; indeed, this has, in a great degree, induced the substitution of the dairy business, in the rich Genesee country of that State. Dr. Fitch, the eminent entomologist, of New York, at a meeting of the New York State Society, estimated the injury done the wheat crop of New York alone, in one year, at upwards of *fifteen millions of dollars!* Dr. F. says, that this insect has long been known in England, but is not found in France; and that it seems strange that it should have reached us across the Atlantic, but had not got over the Channel. It was found in Vermont in 1820, and has since extended, with the strides of a giant, over the country. It appeared in Indiana, and did great damage to the wheat crop—also in Western Virginia, Pennsylvania and Ohio, and has now got a foothold in our State. It is the same insect known as the wheat midge, milk weevil, field weevil, &c. Dr. Fitch says it deposits its eggs the last of May, and just before harvest some of the insects leave the ears of wheat and descend into the ground; the others remain in the grain. In Great Britain, the weevil is kept in check by a parasite insect; this parasite is not found in this country; hence it is inferred, that we have imported the weevil, but not its destroyer. Dr. Fitch intends to endeavor to obtain this parasite from England.

The heads we examined at our friend's, contained from one to four of these weevils; they were feasting on the milk of the berry, inside the husk, and were in a fair way of destroying every head. To the naked eye, it appears about the eighth of an inch long, and the fiftieth part of an inch in diameter; it cannot be seen to move, unless through the medium of a lens, which we applied to it, and

discovered a very faint movement of the body, though they were magnified to the size of a common bee. They are shaped much like the common house-fly, without the wings; it is of a pale-reddish color, with a yellowish cast of the abdomen.

As before remarked, it had not then made its appearance on the red wheat, which, at the time of our visit, (27th ult.,) was being harvested; and we hope that this variety, at least, may have escaped its ravages. It is a matter for consideration, if the result is as bad as anticipated this season, whether or not it will not be advisable at once to discontinue sowing the kinds affected; in New York they hoped against hope for years, until finally they have been obliged to turn their attention to other products.

We will be glad to obtain any further information about this pest, its habits, movements, &c.

We have for years been in the habit of giving the plan of Mr. Carmichael, of this State, for the destruction of the common or black weevil, in the granary, which he had practiced successfully, for years: "When my granaries are clear of grain, I place powdered brimstone in an earthen pot, which, for safety, I put on the floor, in a bed of sand, closing the doors and windows, and fire it. The smoke either destroys them or drives them off."

PLANTING IMPLEMENTS.

It is manifest to every southern planter, that the system of cultivation necessary to good and remunerative crops, is a peculiar one; hence, the necessity and importance of implements correspondingly peculiar, that are to be used upon the plantation. What we mean is, implements for plantation use should originate with those who know their use and importance; should be conceived and manufactured expressly for the work they are to perform—and that the instrument suited to the working of a northern farm, (though fully suited to the work there,) may prove wholly worthless to us; at least, may occasion a great deal of loss in more ways than one. Every planter who gives himself up to a proper study of his business, knows precisely what kind of implements suit him. How much better it would be then for each and every one to design such as are precisely of the kind wanted, take the model to some good smith, and have the precise thing made. It would save a vast deal of tinkering on northern work to make it answer—and a great deal of vexation of spirit, which every one, we imagine, would very willingly be relieved from. Besides, there is a pleasant independence about the matter—'tis beneficial to the mind—makes one feel he is living and working to some purpose.

Let a planter have just such implements as he knows will answer his ends, manufactured under his direction, for the preparation of his land, others for planting, others for the different kinds of workings of the plants, &c., &c., and though it may be a little more outlay of money, our word for it, his satisfaction will be greater, his work better done, and his fields more fruitful.

The implements a planter uses is no trifling consideration in agricultural progress, and it is really censurable for one to work with inferior tools, when superior ones can be equally as easily had—to be content with little when *much* can be as easily at-

tained—to stand still when it requires little or no effort to move ahead—to wander off for elements of good, when every needful one surrounds and is with him all the time—and to purchase implements of husbandry which are manufactured elsewhere just for money, and without an eye to their adaption, when he can so easily have a different set right at his own door—just the kind he wants—by a very little extra application of mind, and a very little attention to every ramification of his business. This is a matter which desires the attention of the southern planter, and one which should be more particularly carried out.—*Southern Rural Gentleman.*

SUMMER SOURS.

Physiological research has fully established the fact that acids promote the separation of the bile from the blood, which is then passed from the system, thus preventing fevers, the prevailing diseases of the Summer. All fevers are “billious,” that is, the bile is in the blood. Whatever is antagonistic to fever is “cooling.” It is a common saying that fruits are “cooling,” and also berries of every description; it is because the acidity which they contain aids in separating the bile from the blood, that is, aids in purifying the blood. Hence the great yearning for greens, and lettuce, and salads, in the early Spring—these being eaten with vinegar; hence, also, the taste for something sour—for lemonades—on an attack of fever. But this being the case, it is easy to see that we nullify the good effects of fruits or berries in proportion as we eat them with sugar, or even sweet milk or cream. If we eat them in their natural state, fresh, ripe, perfect, it is almost impossible to eat too many—to eat enough to hurt us—especially if we eat them alone—not taking any liquid with them whatever.—Hence, also, is buttermilk, or even common sour milk, promotive of health in Summer time. Sweet milk tends to billiousness in sedentary people—sour milk is antagonistic. The Greeks and Turks are passionately fond of sour milk. The shepherds use rennet, and the milk-dealers alum, to make it sour the sooner. Buttermilk acts like watermelons on the system.—*Hall’s Jour. of Health.*

NUMBER OF SEEDS IN A BUSHEL.—A Scotch paper gives the following table, said to be based upon actual trials of the number of various kinds of seeds in a bushel. It also adds the weight, by which we can judge how the bushel measures compared with ours :

Name.	No. Seeds Per bushel.	No. Pounds Per bushel.
Wheat.....	10,500	58 to 64
Barley	15,400	48 to 56
Oats.....	20,000	38 to 42
Rye	23,000	56 to 60
Canary Grass.....	54,000	
Buckwheat.....	25,000	48 to 50
Turnip, Rencle’s Swede.....	155,000	50 to 56
Turnip, Cornish Holdfast.....	239,000	50 to 56
Turnip, Orange Jelly.....	233,000	50 to 56
Cabbage, Scotch Drumhead.....	128,000	56
Cabbage, Drumhead Savoy.....	117,000	50 to 56
Clover, Red.....	249,000	60
Clover, White.....	686,400	50 to 56
Rye Grass, Perennial.....	314,000	20 to 28

The Apiary.

“ In the nice bee what sense so subtly true,
From poisonous herbs extracts the healing dew.”

From the London Field.

BEEES AND BEE-KEEPING.

In every perfect swarm of bees, there are three very distinct kinds; the queen or mother bee, the only perfectly developed and fertile female in the community; the drones or males, which vary from a few dozens to about 2,000 in number, and are, at certain seasons, entirely absent; and, lastly, the common bees or workers, which compose the great bulk of the population, and, in a good swarm, amount to 25,000 in number, or even more.

Into the exact entomological description of these three varieties it is not our province to enter; but we are desirous of giving such an account of them as shall enable each to be easily recognized.

The queen, under ordinary circumstances, is rarely to be observed; we have known persons who have kept bees for twenty or thirty years, and not unsuccessfully, on the common plan, who have never seen a queen bee.

Those who have been in the habit of working their hives, with glasses at the top, not unfrequently have the opportunity of seeing her about May, when she may be noticed traversing the combs in the glasses, in search of empty cells in which she can deposit her eggs. In size and form, the queen is so very distinct from the other bees, that there is no difficulty in recognizing her, even from description. She is much longer than the common bees; and her tail, or, more properly speaking, her abdomen, is long, tapering or conical, and pointed; her wings, which are short, only reaching about half way to its point. The longevity of the queen far exceeds that of her subjects, and she often attains the age of four years, and in some cases even more. The queen that leads off the first swarm, in May and June, is always the old queen, and not, as is generally supposed by unlearned bee-keepers, a young one of the current season. The knowledge of this fact has an important practical bearing, and we are particularly desirous of impressing it upon all our readers; for on the common plan of bee-keeping, as followed by cottagers, the oldest queens are preserved for breeding, and retained when they become sterile and unprolific—a circumstance that frequently leads to the total destruction of the hive as a living colony; and the youngest and most fertile queens, whose lives are especially valuable, are sacrificed over the brimstone pit.

The drones are males, and usually first seen in April, and their early appearance may be regarded as indicative of a prosperous condition of the hive, as may be inferred from the old proverb, “early drones, early swarms.” It is related of Bonner, one of the most celebrated of the early Scotch bee-masters, that, although a poor working man, he used always to indulge his whole family with a holiday on the day that the drones first appeared. The drones may be readily distinguished from the workers by their very large size, and from the queen by their

bulkiness, by the abdomen not tapering, and by their wings reaching to the end of the body. The number of drones in a well-stocked hive is usually estimated at about 2,000, when they are most numerous. The object of this large number is a subject of much dispute, as they evidently take no part in performing the labors necessary to the well-being of the hive; in fact, they rarely quit its interior, except during the middle of the bright and sunny days of Spring and Summer, when they fly forth with a loud droning noise, and after coursing about in the air for a few moments, return again, without alighting on any external object.

The duration of their lives has not been very accurately ascertained; few, however, die a natural death, for, towards the end of the season, they are ruthlessly murdered by the workers. Being destitute of stings, they offer but feeble and impotent resistance to their armed and agile adversaries. It should be borne in mind, that an early destruction of the drones is an almost infallible sign that no more swarms will be given off that season by the hive in which it occurs.

The workers—or neuters, as they are sometimes termed—are now well known to be developed, or rather imperfectly developed, females—a circumstance which is proved by the fact, that the bees possess the power, which they exercise at will, of so influencing any common egg or young grub—which, under ordinary circumstances, would have been hatched into a worker—that it is developed into a perfect female or queen.

This remarkable discovery was made by Shirich, the secretary of an apiarian society in Lusitania, and has been repeated many hundred, or even thousand times, by bee-masters all over the world; it is, in fact, the foundation of the process of producing swarms artificially, a plan which is extensively pursued by many of our most intelligent bee-masters.

The workers, in their ordinary state, do not live more than about eight months, and their number varies greatly at different seasons of the year.—Some idea may be formed of their numbers, from the fact that it takes nearly 5,000 to weigh a pound, and that swarms have been known to weigh seven pounds, although one-half that weight is regarded as constituting not a bad swarm.

Upon these workers devolve the whole labors of the commonwealth—they form the wax, build the combs, collect the honey and bee-bread, nurse and feed the young.

FOOD OF BEES.

The great increase of the honey bee, and the various plans which are now adopted to increase them, we fear has caused many to lose sight of the *means of their support*. Bees must be *fed*, and the food of bees suddenly disappears in many places. The localities of San Jose and Santa Clara, now the greatest places for the stocks of bees, are or were famous for the wild mustard. This is probably the *best* food of the bee, and lasts the longest. We find that the first and earliest food of the bee is the blossom of the Native Willow; wherever this is found bees thrive. This continues from January to March. Next comes the Fillarea, which continues for a month or six weeks. The Mustard continues

till July, which is a hard, dry month for the bee, and food should be planted so as to supply this deficiency. Buckwheat, English Beans, the flowery running bean, are all good. August, September and October, are good months for the bees to work, for melons, squashes, and other vegetables, give them abundance of food. Great care should be had to see that *bees do not starve* for want of water.—Although this little worker is truly industrious, but a little check, and disease and death ensue. We have fears for those who have practiced the dividing system. We think Nature is the great teacher, and natural swarms do best. A few months, and we shall see the result of many experiments. Many apiarists, who are largely engaged, will move their swarms, to *pasture* them, as with our dairy stock.—We shall be glad to hear from all apiarists on the subject of their success.

WHEN SHALL GRASS BE CUT?—The *Country Gentleman* treating of the time for cutting grass, says:—"Chemistry teaches us that plants contain the greatest amount of soluble matter at the period of flowering, and that the sugar and gluten of the grass, and some of the soluble parts constitute its chief value as nutrition. These rapidly diminish as the seed forms, changing into insoluble woody fibre, and the hay, which should, as far as may be, resemble grass in its most perfect state, is worth much less if not made until after that period.—There are but few exceptions to this rule, but we believe the blue-grass of Kentucky, the June-grass of New England, said to be the same, and some others which furnish but light amount of stem, and are most valuable for their leaves, which continue growing through the summer, may stand past the flowering stage without loss.

The advocates of ripe hay bring us an argument in their favor, the fact that such hay yields the greatest amount of extract when boiled, and that, therefore, it must contain most nutriment. It is found, however, that boiling very imperfectly imitates the process of digestion, and experiments with the living animal confirm what chemical analysis teaches, that the best hay is that cut and *properly cured* at the period of blossoming."

TO MAKE MORTAR IMPERVIOUS TO WET.—Provide a square wood trough, say 8 feet by 4 feet, by 1 foot 4 inches; put a quantity of fresh lump lime in; add water quickly. When the lime is well boiled, having assisted that operation by frequent stirring, add tar, stir it well, taking care that every part of the lime is intimately mixed with the tar; then add sharp sand or crushed clinker, and stir well as before; after which, in about twenty hours, it will be fit for use. Tar and lime may also be used, in order to make either wood or mason-work water-proof. The best way to prepare gas or coal-tar for coating wood-work with, is to get some of the best stone lime, and slake it to a fine powder; boil the tar for about half an hour, and then add about one pint of the hot lime powder to a gallon of tar, and boil it about half an hour longer, stirring it all the while. It will then be ready for use. Lay it on with a brush while it is hot, and you will find it to set hard and have a brilliant appearance. It is the best coating for wood-work, except lead.

The Farmer and Planter.

COLUMBIA, S. C., OCTOBER, 1859.

HINTS FOR THE MONTH.

The work for October is generally pretty plain sailing, through the cotton belt. No planter can now afford to do anything but pick cotton, and it is his interest to do it as rapidly and efficiently as possible, while the weather is pleasant, before rainy seasons come upon him, and wheat sowing becomes absolutely indispensable. Press closely upon your work—don't let your picking get behind hand—do it neatly; and if you have soiled or wet cotton, don't mix it with the better article, or heap it in a damp condition in the machine. Gin, pack and sell, as rapidly as you can. A vast deal is lost in weight by waste, and by holding over for a big price. The longer you put it off the worse the roads will be, and the more uncertain the market.

Corn.—As soon as possible have your corn housed. The injury by bad weather, the depredation of birds, and risks of troublesome stock, make it good policy to harvest your corn as soon as possible. It is said that corn cribbed when the shuck is wet is not as liable to the weevil's attack. We are inclined to think there is some truth in it. The heating process it goes through kills the egg, probably—we cannot account for it any other way. We have cribbed corn pretty wet several times without any injury to the corn.

Peas.—Save all the peas and pea-vines you possibly can, before frost. Put your peas away in the pod, if you want them to keep well, and thrash out during wet days in Winter. Ninety pounds in pod will turn out about a bushel of clean peas.

Sweet Potatoes.—After the first sharp frost, dig your potatoes. Do it before a rain, if possible; put them in conical heaps, each containing 60 or 70 bushels, sifting now and then a little moist earth amongst them. Start your heaps well above the ground, on pine tops or broomsedge; cover with broomsedge, then lap over with earth three or four inches in thickness, leaving an opening at the top. Put a loose board shelter over all, coming low down on the north and north-east, to protect the banks from Winter freezes.

Turnips.—Red-top strap-leaf may yet be sown with a reasonable hope of fair turnips. Hoe and plow your old turnips, and drill barley, wheat or rye, between the rows—it will pay well.

Wheat.—Late varieties should now be sown, and the ground prepared for the early varieties, which ought to be sown in November, if possible.

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Oats.—If not sown, do it as soon as possible; do not rely any longer on Spring sowing. Get Egyptian, if you can, and put them in as soon as you can.

Barley, wheat or rye, for pasture, if not sown, should be, at your earliest convenience. You may sow rye or wheat over your cotton fields now, with profit. The pickers will tramp it in; it will protect the soil from leaching, and furnish good Winter pasturage.

Stock.—Let your hogs have the run of the pea fields, and in dry weather the other stock of the plantation may be allowed to pick over. Look to your hogs; push the porkers up rapidly, and watch your sows and pigs. Get all your stock into Winter quarters in as good order as possible, and try and keep them so. It is much cheaper to keep in good condition a fat animal, than to fatten a poor one.—The most fatal error upon cotton plantations is, that in directing all our attention to the cotton crop at this season, we neglect the stock, and they decline rapidly. Remember, the grass is old, innutritious or unpalatable, at this season, and provide for the deficiency, before it is too late.

Have all your hay, straw, tops, fodder, chaff, shucks and vines housed or snugly stacked, for Winter use, as near as possible to the points you wish to feed them off, and waste nothing that can feed an animal, or make a spoonful of manure.

Plantation Economy.—Repair out-buildings and fences; do sprouting, cleaning up, and the like, during bad weather. Put all your plantation tools in order. Have your plow-stocks, plow-shares and gear put in order, for wheat sowing and Winter work.—Keep every tool under shelter, and in its appropriate place. An incredible loss of time takes place on the most of our plantations in hunting up tools, when a change of work becomes necessary.

Keep your hill-side ditches cleared out, and fill up washes. Keep an eye to all water breaks and overflows—they are but the beginning of gullies.—Throughout the greater portion of the State it will be necessary to make use of every economy, to pass well through the Winter. Have good shelters, or if not able, or pressed for time, construct pine-top screens on the hill-sides, to protect all the farm stock from winds and rain during Winter. It will save many a pound of food, many an animal from starvation, and put your manure where you want it.

THE CONDITION OF THE CROPS.

We thank our correspondent, "Perkins, jr.," for his timely hints on this subject. The idea is a good one, and if intelligent gentlemen from all parts of the State would give us a reliable statement of the crops in their respective districts, for our November issue, it could not fail to be productive of good.

THE FAIR.

On the 8th, 9th, 10th and 11th of November next, The Fourth Annual Fair of the State Agricultural Society comes off, at the beautiful Grounds of the Society, near Columbia.

The Executive Committee have made every effort to make this annual Festival of the Agriculturists of the State as attractive as possible. A Premium List, embracing almost everything that can be conceived, has been published and scattered broadcast over the country. The City Council of Columbia, have, in a most liberal spirit, backed the Executive Committee in their exertions to provide all the necessary accommodations for the visitors to the Grounds, and we feel assured that the citizens of Columbia will endeavor to provide for their accommodation in the City.

The success of the previous exhibitions has been such as to inspire the friends of the Society with the belief of a speedy realization of all the benefits they confidently predicted would arise from the establishment of the State Agricultural Society, and to silence very much the prophetic announcements of croakers and old fogies, who insisted upon it, that it would end in humbug or a political meeting. The bone and sinew of the country have generally turned out, and so long as the Society's anniversaries are attended by the same visitors we will have no reason to fear the results.

There can be no doubt but these annual festivals have had a happy effect in directing the attention of our people to improved breeds of domestic animals, and improvements in Agriculture.

We know the fact that several of our most enterprising planters, who have an eye for fine animals, and ample means to gratify their tastes, have begun to stock their plantations with fine animals. The day is not far distant when a planter can buy at home as fine and as purely-bred an animal as he can get from Northern breeders—on better terms, with all the advantages of acclimation. We have every day evidences, too, of the establishment of machine-shops, implement manufactories, seed-stores and nurseries. All these things are but the fruits of association. By it we find out each other's wants and the means of supplying them.

We hope to see a large turn out, from the mountains to the sea-board, at our next Fair. As a social institution only, it is well worthy of being observed, and one need but try it to be convinced.

GUANO AGAIN.

Our readers will find in our present issue, a very sensible letter, from Mr. DICKSON, of Georgia, on the Use of Guano.

This subject cannot be too closely studied. The immense outlay for guano, by the planters in the old

cotton States, during the last season, the extravagant accounts of the profits of the investment by some, and the no less positive statements of failure by others, coupled with the fact that the application of guano, in the older States, (where the planters were once equally sanguine), has greatly diminished, all go to prove that the truth is not as "plain as the nose on a man's face." We have something to find out—whether it pays better on some soils and in some seasons than others; whether a good deal does not depend upon the mode of its application, and whether there is not a very great uncertainty about the purity of the article.

It is the fault of our people to expect too much of a good thing, to run crazy over a hobby, and the very moment it begins to fall below the wonderful standard we had endowed it, we get out of patience, call the thing a confounded humbug, and try to forget it. Before the guano fever becomes an epidemic it will be the safer policy to weigh carefully the experience of those who have gone before us.

NEW LIGHTS.

Our readers will be well repaid for the perusal of an essay by Mr. WILLOUGHBY NEWTON, read before the Virginia State Agricultural Society, "On the use of Compost Manures, &c."

The writer does not appear before us on stilts, but in an easy, colloquial manner, gives us the results of his experience. It is not an essay, but a good farmer's talk. Mr. NEWTON occupies a high position among the Virginia farmers. He has applied *intelligence* to agriculture, and made good use of its fruits. This is just what we want in South Carolina. We want farmers to think, to reason about the why and wherefore, to read, and compare the results of other men's experience with their own, and to weigh in the balance the theories and suggestions of others.

We are always crying out humbug, at every new idea advanced, at every new plant, vegetable, fruit or implement introduced; and we always will cry humbug, until we begin to read and inform ourselves, and *think* for ourselves, on such subjects. As long as we "go it blind," and "pitch in" to every new trap, set by crafty humbug-venders for us, or in the simplicity of our ignorance, run wild after the philosopher's stone of every visionary experimentalist, we may expect to be caught, and held in bondage.—There is no excuse now-a-days, for ignorance. Any body can afford to take a dollar paper, and if he can't read, he can find somebody to read it to him, and glad of the chance.

As long as we plod on in the way "daddy did," just because daddy did it, we may expect to occupy a stand-still position. It has just come to this point—we must go down hill, or go West—we can't stay here any longer, and live by planting, without some

improvement. Fifty years ago Virginia was in as hopeless a condition as we are. Her people were abandoning their lands, and moving their negroes to the south-west by thousands. Mainly by the influence of our man, exerted through the columns of that sterling old paper, the *Farmers' Register*, was the tide of emigration arrested. The people's eyes were directed to the importance of improving their lands, husbanding their own resources, and applying mental labor to the development of physical. And soon, by the efforts of Mr. NEWTON, and other distinguished agriculturists, a new state of things began to exist.

Once break down the habit of following the old routine and you are safe. Men soon begin to think and act upon their own suggestions. They begin to compare soils, reflect upon new modes of culture, the introduction of new plants, and the like, and very soon they look back with astonishment upon their former obedience to old dogmas.

SURFACE DRAINAGE.

A very sensible and suggestive article will be found in our present issue, upon the above subject, from the *Prairie Farmer*.

You cannot pick up an agricultural journal nowadays that is not filled with the importance of under-draining. It is, just now, the fancy hobby, the especial pet of that class of scientific farmers who do all their wonders on paper. We do not wish to be understood as undervaluing the importance of thorough under-draining. We would be glad to have under-drains 5 feet deep and 15 feet apart, over our whole farm, but we cannot afford it. There's the rub—the outlay would never be returned by the income.

On market gardens, or fruit gardens, in the neighborhood of cities, where land is worth hundreds or thousands of dollars per acre—where fancy manures can be had easily and cheap, such things may pay; but it is sheer nonsense to talk of under-draining a cotton plantation, at the cost of \$100 or \$150 per acre, when the planter can go West, and buy land which will produce more and last longer, at \$15 or \$20 per acre. The time has not come yet for the adoption of any such system, on the scale of a cotton plantation. Labor is too high and land too cheap for it. But we have a wide margin for improvement. Of all people in the world the Southern planter takes the least pains to secure to himself the blessings which a bountiful Providence bestows.

The dews and the rains may fall—he makes no extra effort to secure their genial influence. The rows may run so as to carry off the water and the soil, or so as to bog it, and drown out the crop—it is a mere matter of chance how they run—he never

thinks, in the construction of his hill-side ditches, to throw his sand where he has too much clay, or his clay where he has too much sand. The water from his woodlands rushes madly through the woods, often when it should be directed over some barren old field, which needs its refreshing and fertilizing solutions. When he sows his wheat, how often does he think to leave his land so that no surface water can stand upon the field to drown out the crop, or runs his rows up and down the hill to allow every rain in Winter to denude the roots, and every freeze to destroy their vital force. It is time this recklessness should be reformed. The season for wheat sowing will soon be at hand, and if you want to get the full benefit of your manure, to save your soil from washing or leaching, or the wheat from being drowned, have an eye to surface drainage.

PLOWS AND PLOWING vs. HOME MANUFACTURES.

We insert with pleasure the communication from N. BOYDEN & SON, in defence of their Premium Plow, and are glad to see them exhibit such an earnest confidence in the value of their implements.

It will be recollected, however, that we did not institute a comparison between the Boyden and the Brimley plow. We said that very little reliance could be placed upon experiments conducted on *different* soils. We are not prepared to say whether the Mississippi soil, or the Columbia soil, is the more resistant, and, of course, cannot institute a comparison. But we can compare all the plows exhibited at our State Fair, and come to some sort of conclusion, for the resistance or non-resistance of the soil was the same to each.

It is a bad rule that won't work both ways. Let us try Mr. Boyden's rule with the Smith Plow.

No. of cubic inches in a section turned by Smith Plow.....	142½
No. of cubic inches in a section turned by Boyden Plow.....	152
Draft of Smith Plow.....	600
142½	152
2	2
285 :	600 :: 304
	600
	285)182400(640
	1710
	1140
	1140
	0

640 is the number of pounds the Boyden Plow should have taken to compare with the Smith Plow, at the State Fair. The draft, then, of the Boyden was 10 lbs. greater than the Smith Plow—but as it fin-

ished its work better, the premium was awarded it. Mr. Boyden complains of injustice done to his plow by our remarks. We are not in the habit of making assertions at hap-hazard—and as long as we wield the editorial pen, we expect to protect the agricultural interest against being misled.

Mr. Boyden's plow does beautiful work, but its draft is too heavy for a two horse team, on tenacious soils. We have seen two mules used up in a few hours plowing in ordinary stubble, plowing not 8 inches deep. We have seen the beam snapped, where the bolt passes through it, with a force necessary to plow 8 inches deep on ordinary clay soils. When it was proved that two mules could do nothing with it, four were put to it. The beam broke again (a new one) at the same point, running 8 inches deep, in old land, where there were no stumps or rocks.

A gentleman of fine mechanical turn has conducted these experiments, and his conclusion is, that the distance from the point of the plow to the point of resistance or support, where the bolt passes through the beam, is so great, that, when the power is applied to overcome the draft of 8 inches, running through a clay soil, the beam must break.

The performance of the plow in other respects he thinks superior to anything he ever saw. We will be glad to see Mr. Boyden at our Fair again, and with his best foot foremost.

SALISBURY, Aug. 10th, 1859.

EDITOR FARMER AND PLANTER.—Dear Sir:—We notice in the *Farmer and Planter* of August, 1859, an article with the following caption: "Home Manufactures," wherein you compare a trial of the Brimley plow, and others, with the plows exhibited at your State Fair, in November, 1858, and make the remark, "We know the Boyden plow is too much for any two horses, on stiff land, though it does beautiful work." Now, in justice to us, and the farmers and planters of your State, and your patrons generally, we ask you to publish a statement, comparing a section of one inch (the proportion on which the statement is based,) with the statement in the *Farmer and Planter*, of the above date, and you will find that we turned, at your State Fair, in November, 1858, nearly three times the earth that the Brimley plow did at the trial in Mississippi, with less than twice the draft, which would make our plow about one-third lighter draft than the Brimley plow; but, in order to give you our views more clearly, we make a statement, based upon the figures in the *Farmer and Planter*, and work it out, showing what the draft of the Brimley plow should have been, to compare with our plowing, done at the above State Fair, in a much stiffer soil than they have in Mississippi.

Our Mr. Reynolds, the Patentee of our plows, is

well acquainted with the Brimley plow, and could duplicate it at any time, but will not do so while there remains so much difference in the draft, as appears from the following calculation, based upon the figures in the *Farmer and Planter*, being the same on which we drew the first premium at your State Fair, in November, 1858.

We make this request that no one may be misled by carelessly reading the article alluded to:

No. of cubic inches in a section of one inch,
turned by the Boyden Plow..... 152
No. of cubic inches in a section of one inch,
turned by the Brimley Plow..... 58½
Draft of Boyden Plow..... 650

$$\begin{array}{r} 152 : 650 :: 58\frac{1}{2} \\ 2 \quad 117 \quad 2 \end{array}$$

$$\begin{array}{r} 304 \quad 4550 \quad 117 \\ 650 \\ 650 \end{array}$$

$$\begin{array}{r} 304)76050(250 \ 50-304 \\ 608 \end{array}$$

$$\begin{array}{r} 1525 \\ 1520 \end{array}$$

50

250 50-304 is the number of pounds the Brimley plow should have taken, to compare with our plowing at your State Fair.

Respectfully,
N. BOYDEN & SON.

"HAIL-STORMS AND THEIR COOLING EFFECTS"

We are indebted, in no small degree, to our correspondent "Grando" for his suggestive article, in the July number, on "Hail-Storms and the cooling effects of ice."

It furnished us with a key to many weather mysteries which had puzzled us a good deal. How a hail-storm, confined to a narrow strip of territory, could have the effect of cooling so large an area, was beyond our comprehension. "Grando" has made the matter as "plain as the nose on a man's face," and we can now realize the effect of hail-storms on neighborhoods, of the breaking up of the ice in the Rocky Mountains, or the icebergs from the Arctic Ocean, upon the temperature of continents.

Many will recollect the very sudden change and cold spell of weather about 22d July—fires were very comfortable for several nights and mornings. In looking over our files of papers for our friend "Grando's" Hail-Storms, we came across the following, and the mystery was solved, on excerpt principles.

ICEBERGS IN THE ATLANTIC.—The steamer North Briton, which left Liverpool on the 13th and arrived off Farther Point on Monday, reports having passed many icebergs on the passage. Soon after 2 o'clock

A. M., 21st, the fog cleared away, when immense icebergs hove in sight in all directions; at about 4 o'clock the whole Atlantic ahead of us as far as we could see was covered with fields of ice, presenting apparently a perfect barrier to our progress westward. The course of the ship was accordingly immediately changed to the South, and we steamed in that direction until a passage was discovered through the ice, when the steamer was again headed westward. At one time, in the afternoon of the 21st, there were 56 icebergs in sight. We entered the Straits of Belle Isle at 6 P. M. on Thursday, and on that evening saw many icebergs in the Straits. At one time 17 were in sight. Early on Friday morning we saw two icebergs which had forced their way through the Straits. We were in the vicinity of ice for more than thirty-six hours, during a part of which time the temperature was only five degrees above the freezing point.

For the Farmer and Planter.

AN ITEM IN COTTON CULTURE.

Having had several fugitives, and some sickness, among my laborers, the present season, I have, consequently, had more crop than hands to manage it well. I have had to tax what tact I may possess, in contriving the best and most expeditious modes of culture. Among these contrivances, I have fallen upon one which has been of such great benefit to me, that I feel disposed to let others hear of it. It is this: As soon as the cotton has reached the size that it should no longer be plowed very closely, and the rows not being over three feet wide, (which is the usual distance,) have a 28 inch sweep made, having the point and the wings laid with blister steel—have it to run perfectly flat, and very shallow—to this put a strong mule, and run it through the rows; it will cleanse and pulverize them thoroughly, and run just the proper distance from the cotton. When I had these sweeps made I expected to put two mules to them, and drive tandem, but, on trial, found that one strong mule could pull them easily enough. By using these large sweeps one hand and a mule is saved. I think I plow about seven acres per day with them, and the work is as handsomely executed as could be desired. The great error in using the sweep plows is in running them too deep. I have seen fields, after being plowed with them, that appeared to have been plowed with the shovel. Running them deep is ruinous to the mule, and detrimental to the crop, by lacerating the roots. Smaller sweeps must, of course, be used while the cotton is being carefully nursed, but, when it has gotten *under way*, these large sweeps are the plows for rapid and thorough work. I find these large sweeps will cleanse with two furrows a four foot corn row.

J. W. CRAWFORD.

Cold Springs, July 18th, 1859.

Let the farmer's motto be, good farms, good stock, good seed, and good cultivation.

For the Farmer and Planter.

WHEAT.

MR. EDITOR:—The wheat planting season is approaching, and it may not be amiss to offer a few suggestions, more with the view of setting people to thinking, than offering any new ideas upon the subject. It seems to be generally admitted, that, notwithstanding the immense consumption of guano, and the improved culture of wheat, in the wheat-growing regions, there is a gradual decline in the production. In New York, there was in five years a decline of twenty-five per cent., while, during the same period, the corn crop increased one hundred per cent., showing that one had been abandoned for the other. To what must we attribute this falling off? Is it the deterioration of the soil, the effect of the climate, new diseases of the plant, or the depredations of insects? or is it a combination of all these evils? All plants have their natural enemies, which follow them, and the higher the artificial development of the plant, the more destructive will be the operations of the enemy. Wheat has been cultivated at the South only on a small scale, but the more it is cultivated, the greater will be the number of enemies it will have to contend with.

For this reason, we doubt the propriety of the introduction of foreign seeds—they may bring along with them an enemy which may prove a greater curse than the seed a blessing. The greatest curse we have ever had—the Hessian fly—was introduced accidentally, and we have seen some strange looking insects and very ugly weeds amongst the product of the foreign wheats.

There is a little insect now attracting the attention of wheat-growers in some of the wheat-growing States, which is thought to be a distinguished foreigner, hitherto unknown, and one of the greatest enemies of the wheat crop in the old world.

We cannot watch such things too closely. We do not believe in the South becoming a wheat-growing country—we cannot afford it; wheat will not pay on *poor* land, and we need the rich for a better purpose. We should, however, grow enough for our own consumption—and a little to spare in an emergency.

1st. The variety of wheat best for the South. Owing to climatic influences, we are constantly being driven to change the variety. We well remember when the Black Sea, the Genessee, and the Golden-Chaff were the favorite wheats of the country—they are now unknown, all abandoned, on account of liability to rust. Then followed the Reap-hook, the Blue Stem, the Red Straw—next came the Orleans, the Mediterranean, the King, and the Tubman—then the Motte, the Mogul, the Galt, the Walker, the Australian, the Tuscan, and the Tappahanawak, with many others of foreign names and little merit.

The greatest enemy to wheat in this region, so far, has been "Rust." Whether it is the work of an insect, of climate, or soil, has never been satisfactorily settled, but experience has settled the fact, that wheat which *matures* early rarely has rust. It is not safe to rely upon any wheat which matures later than 1st June. Upon the clay lands, grey, red, or trap soils, we have never found any wheat as uniformly reliable as the "Orleans." It requires good soil, but if sown at any time before Christmas it will grow high enough and mature by 28th May or 1st June. The straw is very stiff, and it never falls or has rust. The grain is heavy, weighing from 66 to 70, and will turn out more flour per bushel than any wheat we have ever sent to mill. The Orleans does not branch much, and requires thick sowing, one bushel per acre. We have another variety, but can speak but from one year's experience—"The Tappahanawak," or, as it is by some called in Virginia, the "Boughton Wheat." It is making a great noise in Virginia and Maryland now, on account of its maturing fifteen days before any other variety, and being free from the diseases other wheat is subject to. It is a *white* wheat, grows tall, and matures about 25th May.

All *white* wheats, however, we have noticed, have a proclivity to turn to red in the South. The *white soft* wheat from Tuscany, distributed by the Patent Office in 1857, we have sown for two years, by itself, and find the grain of this year almost a *red, hard* wheat.

The Tuscan grows very tall, has a large head, fine berry, and, so far, has had no rust, but as it ripens a week or so later than Orleans, we would not like to risk a crop of it. It should be sown early.

The "Walker" wheat is the most popular variety we know, upon thin, sandy, dry lands. It will not pay on grey or trap soils—never fills out, and is liable to rust. It is a very tall wheat—the berry is light, and rarely weighs more than 60 lbs, per bushel. It ripens about the 15th June.

Preparation of Soil.—It is almost useless to offer any advice upon that subject—the Cotton Planter's reply—"I have no time,"—rings in our ears. But we will venture a few suggestions, and let us be understood now, not as advising the course to be pursued to make a maximum crop upon a pet acre, but as speaking of the main wheat crop of the plantation:

If your field is in corn, work it as late in the season as practicable, sow peas, and lay it by clean, with a cultivator, so as to be as level as possible. Chop down the stalks, sow a bushel of seed per acre, and plow in with narrow bull-tongues. Run a brush or roller over it, and then lay off (if not done previously,) your ditches, to carry off surplus water. In

fact, every land ought to be plowed so as to drain itself. Stagnant water is death to wheat, always.

Preparation of the Seed.—The seed should be soaked 8 or 10 hours in a strong solution of Blue-stone—5 lbs. to 30 gals. of water—pound up the blue-stone or dissolve it in hot water, and then add it to the soak. This is a certain preventive of smut, and by soaking and skimming you get rid of light grains, white-cap and other pests. Remember, a bushel of *soaked* wheat is only about 3 pecks of *dry* wheat, and should be used accordingly. The wheat intended for seed should always be allowed to stand in the field until dead ripe.

Time of Sowing.—We believe the earlier wheat is sown, after the first good freeze, the better. After a good freeze, it will not have to run the gauntlet of the fly in fall and spring both. If it grows too rapidly, pasture it with sheep, calves or colts; if done when the soil is wet, it will not hurt the wheat.—Some persons are under the impression that the ravages of fly can be prevented by sheep-grazing.—There should not be allowed more than one sheep to every two acres—this will keep it clipped without injuring the crown.

Manures.—We have said nothing on this subject, as every planter will follow his own interests. We have never found any manure as cheap, as reliable on all soils, and as easily applied, as cotton-seed, at the rate of 25 to 30 bushels per acre. If this random talk will be of any use to you, Mr. Editor, you are welcome to it.

TRITICUM.

For the Farmer and Planter.
HUMBUGS.

Of all trades and arts in repute or oppression,
Humbugging is held the most ancient profession.
'Twixt nations and parties and State politicians,
Prim shopkeepers, jobbers, smooth lawyers, physicians;
Of worth and of wisdom the trial and test
Is, mark ye, my friends! who shall humbug the best.

Brookes.

MR. EDITOR:—Notwithstanding humbug seems, from the above, to have been an ancient profession, I believe the matter will not be disputed, that the moderns have made wonderful progress in the art. Nor will it be gainsayed, that, of all the professions, the gullibility of the agricultural is the most proverbial. There passes not a day but some new theory in the art of manuring, of tilling the soil, or of machinery, is not palmed off upon it, as a wonderful improvement. Not a day but improved seeds of *old* plants, *new* varieties of *old* fruits and plants, new processes of making a great deal out of a very little, are not announced, and as readily believed. Old doctrines, old plants, old seeds, which have been long since tried and exploded, are vamped up, under

new names, with an array of certificates, vouched for by the newspapers, and the same old race, and the same old failures are run over again.

I saw, a few days ago, announced in the *California Farmer*, a new and wonderful wheat, introduced into California under the title of "Seven-headed Egyptian." How many hundred-fold it produces I do not recollect. It is a little remarkable, that about twenty years ago, this wheat was introduced here as *California* Wheat. Here is an extract from a Georgia paper of 1840: "The many headed wheat is an indigenous plant of California, six heads of which were procured by Maj. Sperring, from a man in the *Osage Nation of Indians*, who had been trading in the Pacific Ocean. The six heads produced six hundred grains, which were planted by Piphens Baker, of Abbeville, S. C., the production of which was ten thousand heads. It was planted about the last of January, and cut on the 20th of June. The land on which it grew is *poor* and *sandy*, and was *unassisted by manure*." The writer makes a calculation, and proves by figures—which never lie you know—that the yield per acre was equal to 230 bushels. What a magnificent article that was! Well, very soon the country was filled with peddlars, retailing or farming out, (as a *great favor*,) the grains or heads of this wheat, at 25 cents a grain, or \$5 a head.

I know some very sensible, *practical* farmers, who took stock, and after two or three trials threw it out to the hogs.

Notwithstanding this was pronounced a humbug by Mr. Ruffin, of the *Farmers' Register*, and Gideon B. Smith, which had been again and again exposed, during the preceding twenty years, heads were sold all over the country at the rate of \$5 per head.

A few years ago we had flaming accounts of the Nepaul Barley, the Mammoth Rye, the Minnesota Rice, and the Wyandotte Corn. They did not pay very well, I take it, and soon ran their race. Then loomed up the leguminous family, the Oregon Pea, at \$1 per pint, the Japan Pea, at the same figure, the big bend Chinese Prolific Pea, at \$1 a gill, struck out, and threatened to run all over the country.—What has become of these distinguished foreigners? And are the novelty seekers, who were sold at the tune of \$1 a pint, ready to give their certificates?

Recently we have had a magnificent article out—the Peabody Prolific Corn, and the Peabody Prolific Strawberry—both have had a fine run, and doubtless put money in the purse, but we notice quite a cooling off in the believers, of late.

A few years ago, a company of strolling Yankees swept over the country, exhibiting specimens of magnificent fruit, and proposing to bring cuttings from the simon pure trees next Spring, and graft upon our native stocks. They did come, and grafted

some thousands of trees, cutting young and vigorous trees to pieces and ruining them, and we have never heard of but three varieties of fruit worth a fig, and they came from a neighboring orchard they just left. They went home singing, *Veni vidi vici*, to the tune of Yankee doodle.

And notwithstanding this happened only a few years ago, the same trick is being played over now, in exhibiting fruit, with promises to bring the trees hereafter, and gentlemen are verdant enough to bite the bait.

The number of cotton humbugs which have had their day, during the last twenty years, has been legion. The first in my remembrance was the Lyles Cotton, then the Okra Cotton, that was so accommodating as to admit of any degree of crowding, and so aspiring as to grow *ad astra*, and bear fruit from bottom to top. Then came the Alvarado, the Rives or bunch, and the Hogan, the Prout, the Golden Cluster, and the Mastodon, that was as fine as Sea Island, and would hang in the boll as long as you wanted; the Jethro still better, the Prolific Pomegranite, that excelsior humbug of all, that ran up to \$7 per bushel for seed; then the Boyd's Prolific, the Accidental, the Calhoun, and last, though not least, Dixon's Improved. Notwithstanding the many impositions and extortions practiced by the cotton-seed speculators, much good to the many, has been the result. A very decided improvement in the character of the staple and the prolificness of the plant has been attained, and, what is of more value, everybody has found out that by a proper care in selecting their own seed, they can attain the same end by very little trouble or expense, and have, at the same time, a plant adapted to climate and soil.

In no department of husbandry has a greater amount of humbugging been practiced than in the Grasses. Since my first recollection, every community has contained some persons who were out always on a grass hunt. Of course certain benevolent gentlemen, of an enterprising turn, feeling anxious to gratify the hunters generally, fell in with some big Indian from the Rocky Mountains, or a curious looking fellow, who couldn't speak a word in English, and accidentally came into the possession of the very article long dreamed of.

What wonders we were once told the *Gama* would accomplish for us? In what a furore people ran after the seed? How everybody talked Gama—but Gama died a natural death, and was only buried to herald the introduction of some new favorite. Soon after the Gama came the Wild Rye, which promised amazing results; it would grow well anywhere, and the difference in favor of mutton fattened on Wild Rye was perceptible to even the dullest taste. Wild Rye seed was held at \$3 per bushel, and there was

perhaps not a creek in the State, upon the borders of which it did not flourish. But the Wild Rye would not abandon the moist creek banks for the dry lands, and soon died out. It has been brought out, however, in an adjoining State, recently, under a new name. Then came the Mosquite, from Mexico, and for a while, promised a good deal, but after a few years trials the Mosquite followed the same direction. Then we had the Yellow Clover—what a wonderful prodigy was here—rich, nutritious, indomitable—a few acres would bid defiance to all the mules, horses, cattle, goats, sheep, and hogs, on the plantation. But the Yellow Clover did not come up to public expectation, as a feeder of stock, and it soon ran its race.

Yellow Clover had barely left the field, when a splendid prodigy loomed up in the "Rescue." Here was just what the world all the while had been in search of—a grass that would grow any where, which would stop all the gullies, heal over all the galled spots, preserve from washing away the hill-sides, fatten all the lean kine, fill the barns with sweet scented hay, and cover the hills and valleys with a green carpet, dotted over by lowing flocks and herds. Eureka, exclaimed the grass hunter, here at last is "Arcady the blest." Rescue sold at \$5 a peck, but how well soever it may have filled the pockets with money, it failed to fill the bellies of hungry quadrupeds. It could not hold its own against wire grass, and foxtail, and broomsedge, and soon made an inglorious stampede.

The agricultural world had hardly recovered from the sensation of the Rescue, when a new candidate for public favor made its appearance, under the startling name of "Stanford's Wild Indian or Wild Oat Grass," at the moderate price of \$20 per bushel. It would be hard to say what this grass wouldn't do—grow in the woods and in the sun—fatten anything and everything. It was the very thing of all things wanted by the Southern people. It has not quite run out, but the world thinks it high time, for another has been announced as its successor. The Stanford's Wild Oat I have seen growing in several places for the last twenty years. It is the *avena elatior* of England; does very well on some soils, but is no great thing any where, when not made a *pet* of.

The Honey Blade made a magnificent burst for public admiration. What it did not possess in vigor was more than counterbalanced by its delicious sweetness. Every living thing quit everything to run after it, but, unfortunately, some of the old settlers recognized it as an old and familiar species of the Millet family, and put out its light.

But it has not been confined to seeds only. Any number of humbugs has been played off upon the agricultural profession, in the way of plows, harrows,

cultivators, straw cutters, and excelsior Little Giant and Young America Corn and Cob crushers. But the especial favorite now-a-days seems to be the *scientific manures*. Their name is legion. There can be no excuse now, if these gentlemen are to be trusted, for not supplying the wants of your soil, for any particular tree or plant. You have only to get an agricultural chemist to analyze a handful of your soil, and they can fix you up just exactly what you need, to *your* profit too. Well "what is all this tirade about, (I hear you ask, Mr. Editor,) when, if any man had taken a dollar paper, he could have been posted up, and avoided all such humbugs?"—My dear sir, that is the very point I was driving at; you were never more mistaken in your life. The newspapers, and, I am sorry to say, agricultural papers, have too often had a finger in the pie. They have buttered their crust out of the profits. Show me one of them that is not filled with advertisements and puffs of these humbugs. How many of them have editors or proprietors who are not interested in fruit or seed speculations, chemical manures, agricultural implements, or some sort of machinery. It is thus they become the propagandists of every humbug that embarrasses agricultural improvement.—But, says Mr. Editor, are we not almost driven to that position? Your agricultural profession will not sustain us—they will not patronize their own organs, either by reading them or writing for them; and how can we make the pot boil without the means? Give me 10,000 subscribers, only a third of the farmers in the State, and I will talk as big, sir, as you do, against humbugs." Well, Mr. Editor, there may be something in that, but, as Pat said, "I'll think about it."

P. R. S.

THE USE OF POTASH AND SAND.—No vines can produce fruit without potash. Dye-woods, and all color-giving plants, owe their vivid dyes to potash. Leguminous plants all require potash. Without it we cannot have a mess of peas. Where it exists in a natural state in the soil, there we find leguminous plants growing wild, and in such places only we find wild grapes. All the cereals require potash, phosphate of magnesia and silica, which is dissolveable in a solution of potash. It is this dissolved sand that forms the hard coat of the stalk, and gives them strength to stand up against the blasts of wind and rain while ripening. It is this substance that gives bamboos their strength, or the beards of grain and blades of grass their cutting sharpness. No cereal ever came to perfection in a soil devoid of potash, silica, phosphate of lime, carbonic acid and nitrogen. Potash is indispensable for cabbages and turnips.

TO KEEP APPLES.—If apples are carefully packed in hard wood sawdust, they will keep through our coldest Winters. This we have tried, and know it for a certainty. But in packing, care must be taken that none of the apples touch the barrel, nor each other. We have had them open in fine order, when thus packed, long after those in the cellar were rotten or so withered as to be useless.—*U. S. Journal.*

Gorticultural and Pomological.

WILLIAM SUMMER, EDITOR.

WORK FOR THE MONTH.

The directions for last month may be followed in this, but as frost may be expected about the close of the month, few seeds can be sown with safety.—Amongst these few may be mentioned *Onions, Leeks, Parsnips, Spinach, Early York* and other Spring *Cabbages*, which should be sown in beds in which they may be protected. As also *Lettuce, Cress, Celery, Parsley, &c.* *Lettuce* plants not yet set out—attend to them first showers.

Prepare your *Strawberry* beds by deep trenching, and enriching with best vegetable mould; and if a good crop is desired next Spring, plant out the last of the month.

Make preparations for planting *Fruit-trees*, and the next month we will give you some hints for Fall planting.

FRUIT CULTURE—WINTER APPLES.

Our readers will find in the present number a very sensible letter from Mr. Mock, of California, on Fruit Culture, Winter Apples, &c.

Mr. Mock is good authority—he was one of our first pioneers in the introduction of choice fruits at the South. His nursery was in North Carolina, and for years after he began the business he was obliged, in order to get sale for his trees, to have them peddled over the country, going from house to house, and finding it a hard matter to sell them at 12½ cents apiece. Many of the best orchards in North Carolina and South Carolina owe their existence to Mr. Mock's good sense and indefatigable industry.

He was one of the first to learn the importance of acclimation, and his experience is worth a good deal. Mr. Mock can look back over his former field of labors, and enjoy the satisfaction that his efforts have borne good fruit. The nursery men can sell their trees readily from the nursery, and the demand for more is so great that the Yankee tree peddler of the refuse of Northern nurseries, can also drive a good business.

It will all work out right, after a while. People have various fancies, and to many no knowledge is so sweet as that bought by experience.

Count your clothes-pins, knives and forks, towels, handkerchiefs, &c., at least once a week. Wash your tea-trays with cold suds, polish with a little flour, and rub dry with a cloth.

Horse-radish, infused in milk, is said to be a good cosmetic for clearing up and beautifying the skin.

NEW SERIES, VOL. I.—40

For the Farmer and Planter.

TO LOVERS OF GOOD FRUIT.

The cultivation of the improved varieties of fruits being fairly inaugurated in several sections of the State, and the desire for its promotion being strongly felt by many, I shall avail myself of the opportunity afforded by the very extensive circulation of your admirably conducted journal, to propose a meeting of all lovers of good fruit, in Columbia, at the State Agricultural Fair, in November next.

It is not my design in this to propose the organization of a Pomological Society, independently of the Agricultural Society, but one connected with and auxiliary to that Society. From personal knowledge of the sentiments and strong pomological proclivities of the gentlemen composing the Executive Committee, I am confident that they will cheerfully give us every assistance in their power, and will furnish, to some extent, "the sinews of war." And thus a Pomological section may find a permanent position within the pale of the great State Society.

One great object of the proposed meeting will be, to compare notes with each other as to the varieties of the different kinds of fruit, and thus ascertain with accuracy, those that are really worthy of cultivation. The many disastrous failures that have attended the adoption of Northern fruits, and of the Northern system of cultivation, warn us that it is high time to attempt something for ourselves. We have been in leading strings long enough, in all conscience.

The subject of most interest to be acted on, by the proposed meeting, will be that of a catalogue of pears that have been fully tested and approved, by reliable cultivators at the South.

EPYRUS.

We heartily endorse the views of our correspondent, Epyrus, and we feel sure that it will meet with a hearty response from every lover of good fruit.—There are very few amateurs in the State who can speak more to the point, from their own experience, than our correspondent. He has worked through the whole course, and found himself often put upon the back track by following those he thought ought to know more than he did.

Apropos of Pear Culture. The South must needs be the home of the pear. Its success may be written down as almost certain. With one so perfectly at home with this glorious fruit as Mr. BERCKMANS, we can hardly fall short of success.

The first important advance in reform will be to cut down our catalogues, and confine ourselves to varieties adapted to our soil and climate. This will require experience, prudence and courage; but the fruits to be derived from their employment are well worth striving for.

For the Farmer and Planter.

PRIZE ESSAY ON POMOLOGY.

BY WILLIAM SUMMER, POMARIA, S. C.

To which was awarded the Premium at the Annual Meeting of the State Agricultural Society of South Carolina, in 1858.

The blessings of fruit all should enjoy; and favored as we are, with a genial climate, where Nature has done so much in bringing to perfection the choicest and most delicious varieties, it should be one of the universal comforts of life. The arguments which could be brought to bear upon the advantages of Fruit Culture, are so numerous, that we will only allude to a few. People of all ages and conditions of life enjoy the delightful refreshment which the juices of fruits bestow. The fondness for the various unwholesome compounds and imitations of fruits, indicate a love for them, and the displacement of *confections* would have a most beneficial effect upon health, for there is no diet so salutary, so refreshing and delightful, both to the young and the old, as ripe; fresh fruits—and there are not a few *diseases* for which fruits are the best remedy. Those whose breakfast, or first food in the morning, is of fresh fruits, seldom suffer from dyspepsia, or bilious complaints, as is proven by the inhabitants of Italy, where the free use of grapes and cantaloupes are indulged in. The climate is in many respects similar to ours. The acid of fruits is a panacea for scurvy, and eruptive disorders. The delicious pear is a perfect remedy for dyspepsia, and ripe peaches have been found to be a specific in Summer complaints, and the juices of fruits tend to drive humors to the surface, and to purify the blood, and instances are on record where whole families with serofulous tendencies, have been saved and restored to blooming health, by returning back to the simple fruit diet of Nature. In Herefordshire, where apples abound in every hedge, and cider is so plentiful as to be the almost common beverage, there is not a case of dropsy to be seen. Doubtless *dram drinking* and intemperance itself would be infinitely lessened, and perhaps utterly banished from our society, by the use of pure and wholesome wines, made from our own vineyards, and an abundant use of fruits, for the love of ardent spirits is a corruption of the true and natural taste of fruits; and it has often been observed that those who indulge in the excessive use of ardent spirits, are extremely fond of fruits by nature. Give such an abundance of fresh and wholesome fruits, and they will in time banish from their appetites the liquors and various poisonous mixtures. Surely any effort is worthy of being made to do away with the abominable and degrading habit of *whiskey drinking*, which, in the end, will fill our poor-

houses with paupers, to be supported by the taxes of the very men who yearly support the government, but who are indifferent to the work of reform. To carry out this object, we would recommend the culture of the grape, and the making of a pure and wholesome wine. In Italy wine is so abundant that it is sent to the laborers to drink, instead of water, and although the Italian may be careless and indolent, he is seldom a drunkard. His poor and degraded condition comes not from drinking wine, for, with bread and olives, it forms the chief support of the poorer classes; but the fault lies in his oppressive government, and the beggars who come amongst us are from the poorer mountains and unproductive regions, where the principal subsistence of the people is the maron or chesnut. In France, and in Germany, on the Rhine, which is one continuous vineyard, the people are sober, and never addicted to drunkenness. There, wine takes the place of coffee with us. These are some of the many reasons, besides the pleasure and gratification which they afford, which make us urge the universal culture of fruits, and we trust the time will soon come when they will be considered indispensable to the comforts and necessities of every household.

As in all culture, so most especially in fruit culture, *deep tillage* is the principal system. Subsoiling or trenching is absolutely essential, to enable the roots to run down into mellow and rich soil, and thus produce an abundance of fair, large, luscious fruitage. When the ground is thus prepared, and the holes made wide to receive the roots of the trees, large enough to prevent crowding, and care is taken not to plant too deep—for nothing is more injurious—they will, with care and attention, flourish. The proper enriching of the soil, thus deeply tilled, is of hardly less importance. Trees must not only be fed, but every tree must have its appropriate nourishment. One kind of nourishment conduces to the growth of foliage and wood, another tends to fruit, and while one kind of plant or tree requires a particular element for its sustenance, another demands a far different element. For example, lime is a great absorbent of acids, and thus naturally assists in the elaboration of the juices of fruits. This is particularly observable in the apple, the bark of which is principally made up of lime, which has been thrown out of the circulation as useless, after it has been employed in its vegetable economy. To all trees, doubtless, a vegetable substratum of soil is necessary, composed of decayed wood, grasses, leaves, pond-mud, or vegetable moulds. But with this alone, without ammonia, and the sulphates and phosphates, or lime, to absorb and retain these, the fruit may be large and fair, but it will be rough, coarse and astringent on the one hand, or flat and tasteless on the

other. A pear or an apple on a cold soil, is found to be a different thing from what it is in a rich, warm loam, with a well drained subsoil. The soil and culture may be difficult to select and adapt to the various fruits, but with a little care and judgment, and the proper food, they may be successfully cultivated, almost in all localities, by observing the following requisites :

1st. *Wood-ashes*, containing as they do, all the elements necessary to their growth, (except carbon, which is supplied from the air,) is a congenial element for all trees and woody growth.

2d. That *lime*, whether in the form of marl, shell, plaster, or stone-lime, is a specific for *apple-trees*, and that apples are largest and fairest, grown in a calcareous soil.

3d. That *phosphates*, in the form of bones, (which are principally composed of phosphate of lime,) or prepared super-phosphates, are specifics for pears and grapes.

4th. That *ammoniacal* manures, as guano, horse-dung and urine, are specifics for the peach, and give flavor and spirit to all other fruits.

With these general remarks we come to the divisions of fruits which are generally acknowledged by pomological authors :

THE APPLE

Succeeds well in most portions of our State, and with proper cultivation yields regular and beautiful crops. It is a vigorous, hardy tree, growing in almost any kind of soil, but thrives best in a good loam, with a clay subsoil. A porous subsoil is often unfavorable. Some varieties do best upon a deep, sandy loam. All the early varieties require a warm, dry soil, which hastens their maturity. Others flourish best in a strong, moist loam. Late kinds require a cool soil, to retard their ripening. For this purpose we have found mulching with leaves, pine-straw, saw-dust, and such material, of great benefit, when applied after a good season, in mid-summer. The fruit will mature gradually, and attain greater perfection, and will keep better during Winter. Upon the whole, the apple is one of the most valuable fruits. Some kinds are more luscious and delicate, but these qualities render them transient, while the other varieties endure, and may be had in excellence almost during the entire year.— Various other fruits, when duly attended to, will assume far more comparative importance. Yet the apple, from its hardiness, early productiveness, great excellence, and being always in use, either fresh or dried, will, in the main, hold a decided superiority over any other species of fruit. It is useless here to enumerate all the uses to which the apple can be appropriated in the household department, but an excellent writer thus admirably sums up its uses :

“The fine kinds are excellent for the dessert.— Besides the pleasure of this luxury, and nutriment in rich apples, they have an excellent medicinal effect—they are greatly laxative, and keep the system in wholesome condition. They serve as a healthy repast for children, who would often be eating something that would be injurious from too much nutrition.”

Apples are valuable food for all kinds of stock. We not only give them freely to our hogs, but feed them to our milch cows, and frequently to our horses. All seem to thrive, and eat them with good relish ; and we would advise our good housewives to make a plentiful supply of cider vinegar, which is better, and much more preferable to most of the vinegar sold as White-Wine Vinegar, often a composition, from the drugs of which its composed, a slow poison, and destructive to health.

The apple is admirably adapted to the upper portion of our State, where it thrives in great perfection.

If possible, Winter varieties should be planted in lowlands along our streams. They would flourish and attain great perfection, as may be seen from the old orchards which were planted forty or fifty years since, along the lowlands of Broad River and its tributary streams. The Hughes Crab has, in many of the locations, attained the size of forest trees, and bears large quantities of fruit, which cover the limbs with its abundant fruitage, even after severe frosts.

The principal Winter varieties introduced from the Northern nurseries, mature too early to be preserved for Winter use, and recourse must be had to *native Southern varieties*, to supply this deficiency.— This subject has attracted the attention of our fruit-growers, and within the last seven or eight years, several hundred varieties have been brought into notice, which will compare with any of the best Northern kinds—ripening from October to January, they supply this important want. There are so many varieties worthy of cultivation, that, to give a descriptive list of the kinds, would extend this essay to a small volume.* We would, however, name among the native varieties, the Anderson, Augustin, Cherokee Red, Cooks Red, Davis, Elgin, Eptings Red Winter, Eptings Premium, Foust Frey, Southern Greening, Pomaria Greening, Oconee Greening, Gully, Hall, Hoover, Hopper, Hammond, Carolina Red June, King, Lexington, Lever, Maverick's Sweet, Meadow Woods, McDowell's Winter, Neverfail, Perkins, Clark's Pearmain, Can-

* We shall, as an appendix to this essay, give complete lists of all Fruits worthy of cultivation in the South.

non Pearmain, Peakes Red Winter, Price, Shockley Wall, Wander, Walker's Yellow—these are all worthy of a place in any collection. The best distance for planting apples is twenty feet, and the land should be kept in good condition and culture, as no tree can be expected to flourish and produce good fruit if neglected. The trees should be branched within two or three feet of the ground, and a low-spreading top should be encouraged by judicious pruning and training.

The apple is subject to the attack of several insects—the *bark-louse*, the *caterpillar*, the *canker-moth*, and the *blight*.

For eradicating the bark-louse we use alkaline washes, made of potash, at the rate of one pound to two gallons of water, applied with a painter's brush, in Spring, just before the buds begin to expand their leaves; but a preparation of soft soap, of the consistency of cream, is the safest and best remedy we have yet tried. This, with the addition of a compost of chip, rotten leaves, &c., to assist in giving a good growth, will soon cause the trees to flourish and overcome this troublesome and destructive insect.

The *caterpillar*, some seasons, do immense injury. The best mode of destruction is, to cut off, during Winter, the branches upon which they have deposited their eggs, and burn them. Every nest of eggs thus removed, (which is done in a few seconds) totally prevents a nest of caterpillars in the Spring; but when these appear, no time should be lost in clearing the trees of them. Soap-suds, in which salt has been added, and applied by means of a sponge at the end of a pole, is the best method to rid trees of them, when they have made their appearance. Salt water, injected into the web with a syringe, is also effectual; so, also, is tobacco water.

The *borer* (*saperda bivitatti*) is an insect which enters the tree at a bud, and cuts into the solid wood, frequently doing immense damage. The first indication of their presence is the appearance of small, round holes. The best remedy, in young trees, is to cut off the branches below the entrance of the borer, in order to save them; or they may be destroyed by running a piece of wire into the hole; but, as preventive is better than cure, we would advise the tree to be kept smooth and clean, and well washed with some alkaline solution, such as has been recommended, to which add a little sulphur. The insects would then be prevented from harboring, if this was applied in June or July.

The *apple worm*, or *codling moth*, (*carpocapsa-pomonella*) was imported from Europe. During the latter part of May, these moths lay their eggs in the eye, or blossom end, of the apple, and sometimes in early pears. They hatch in a few days, and the

worm eats into the apples, and, in a few weeks, attains its full growth. The apples ripen and fall prematurely. Soon after the apple falls, and sometimes before, the worm crawls into the crevices of the tree, or other places, and spins a cocoon of a white, delicate web, where it remains until the next season. It is quite probable that, with us, it comes out and produces a second generation. The only remedy that is available is, to permit swine to run into the orchard and eat the fallen fruit. By scraping off the bark of the trees in Spring, many would also be destroyed.

The *canker worm* (*anisopteryx pometaria*) affects the apple, the quince, mountain-ash, and hawthorn. One of the principal remedies which has been tried is, to prevent the female from ascending the tree to deposit her eggs; but none have yet been discovered of easy, safe, and effectual application: One of the best is, to encircle the tree with a canvass belt, coated with a mixture of tar and train oil, to be removed several times. Applying the tar directly to the tree is injurious. A species of *aphis*, infesting young trees, is easily destroyed by the use of whale-oil soap, and by lime-wash.

The *blight*, which sometimes kills the terminal shoots of the branches, has been variously ascribed to the sting of an insect, and the effects of the heats of Summer seasons; the cause has not been satisfactorily ascertained. It rarely proves a formidable disaster. The young trees are sometimes disfigured by it, and, for a time, checked in growth.—We have always cut off the branches and burned them. There is frequent complaint of the rot in the apple, but it is owing to a deficiency of lime in the soil; and where this is added the apples will be found to mature perfectly. The upper Districts produce the finest and best flavored apples; but we have seen fine specimens of even Winter varieties grown as low down as Orangeburg District. Even on the sea-coast good early and Autumn varieties have been grown. For the latter locality we would recommend those grown on the Paradise or Doucien stock, which dwarfs them, and brings them into early bearing.

Pruning.—In pruning, the principal object is to give form to the tree, and to promote the vigorous growth of the shoots and branches, and to check the growth of certain parts, in order to produce fruit. Every young tree needs attention, but in pruning off the side shoots, it is better to remove only a few of the larger ones at the bottom, and pinch off the ends of all the rest, which directs the sap into the leading shoot—the tree then advances in height, and at the same time enough is left to form wood on the stem and to stiffen it, and furnish stout well-proportioned trees. When a side shoot is disproportionately large, it should be cut off closely at once.

By treatment similar to this, any form may be given to a tree, as the sap tends to all parts of the tree. If we wish to alter the form of the tree but slightly, shortening the tips of the shoots will be sufficient. An even, well-balanced, well-trimmed head for standards, may then be easily obtained. But other adaptations must be made to the habit of the tree. Some varieties, as the Early Strawberry, are remarkable for their leading shoots, running straight up; while others, like the Aromatic Carolina, form, almost naturally, a wide spreading head, requiring little pruning after coming into bearing.

(CONCLUDED IN OUR NEXT.)

For the Farmer and Planter.

TOMATO AND TOBACCO WORMS.

MR. EDITOR:—A subscriber asks for a remedy for the large green worm that attacks the Tomato-plant. This worm is believed to be the same that infests the Tobacco-plant, and, therefore, the preventives are the same. It is produced by the large butterfly commonly seen hovering about Jamestown-weed blossoms during twilight, and known as the "horn-blower." Where tobacco is cultivated, it is recommended to cultivate a few Jamestown-weed plants, and when in bloom, drop in each flower a few drops of a solution of Cobalt, or fly-poison, sweetened with honey, which poisons the horn-blower. The past spring, walking near some Petunia plants in full bloom, I noticed a number of the horn-blowers sipping the honey out of their flowers, whereupon I called my old gardener, and asked him what these things were, and he said "Humming-birds." I then told him that they were the parents of the Tomato-worm, and that by killing them with a small paddle, he would hear nothing of the Tomato-worm. He must have followed my directions, for I have never seen the marks of a single worm on the tomato-plants, nor on a solitary tobacco-plant growing near them, during this summer. I do not agree with you, Mr. Editor, in recommending the vines to be supported with brush, because I think that when allowed to run on the ground, and take root at the joints, the plants continue much longer in bearing. I set my plants 5 to 7 feet apart both ways, and manure heavily, and make two sowings, the second in May for fruit during the autumn months, and seldom fail to have them until Christmas, with a little extra care.

ROB'T. CHISOLM.

We thank our friend, Mr. Chisolm, for the above reply to our correspondent of the August number of the *Farmer and Planter*. The insect which preys on the tomato, the tobacco, and frequently on some of the *Solonam* family, is the Carolina *Sphinx*, (*Sphinx Carolina* of *Linnaeus*), so named from a fancied resemblance attributed to some caterpillars, when at

rest, to the *Sphinx* of the Egyptians. The attitude of these caterpillars is indeed remarkable. Supporting themselves by their four or six hind legs, they elevate their foreparts, and remain immovably fixed in this posture, for hours together. In the winged state the true *Sphynxes* are frequently termed Humming-bird-moths, from the sound they make in flying, and, again, hawk-moths, from their habit of hovering in the air while taking their food. These moths may be seen during the morning and evening twilight, flying with great swiftness from flower to flower. Their wings are long, narrow, pointed, and are moved by powerful muscles, to accommodate which, their bodies are thick and robust. Their tongues, when uncoiled, are excessively long, and with them they extract the honey from tubular flowers, while on the wing. Other *Sphynxes* fly during the bright sunshine of our fairest days.

The *Sphinx Carolina* is a great pest to the tobacco planter, and the caterpillar of this insect soon destroys his crop, if not regularly picked off by hand. The moth lays its eggs during the night, and, in Florida, tobacco planters "fire-hunt" for them, every dark night whilst they prevail. With a glaring pitch-pine torch, held behind the hunter, he easily "shines" their brilliant eyes, and they are knocked down with a paddle, as they sluggishly attempt to escape. A better mode would be to cast over them a small hooped gause-net, fastened to a long handle. This would ensure their capture whilst stationary on the leaf, before they started on their flight; and the light character of the net and its fixtures, would not cause the leaf of the tobacco to be broken, which a stroke of the paddle invariably does. Any rupture of the leaf of the finer sorts of segar-tobacco ruins it, and it is thereafter of no marketable value. Destroying the females, whilst in the act of depositing their eggs, abridges the labor of "worming" the tobacco, very much. This operation is the only sure remedy to rid all plants infested with this gigantic and greedy destroyer, which consumes, in its caterpillar state, seven hundred times its own bulk of vegetable matter.

For the Farmer and Planter.

THE GRAPE ROT.

When did the grape first commence to rot, or, what is more important, what causes the grape to rot? or does it take place from a variety of causes? The latter is the opinion of the writer. The same crop grown in succession, will exhaust the most fertile soil, will fall off in quantity, and very often depreciate in quality.

Young vines usually produce sound grapes for a time, until, it may be, they have exhausted some of the ingredients in the soil, necessary for the production of good sound fruit. Hence, the applica-

tion of some manure becomes necessary to restore the original elements of fertility.

Grapes are very subject to rot after sudden changes of temperature. Such changes are generally believed to produce rust on wheat.

I noticed, in the report of a diary kept in a grape-house, that the degree of temperature was never over 80, and seldom fell more than 25 degrees below that point.

The difference of the past season was from 40 to 50 degrees—and the result was, that some varieties partially rotted, and others were totally destroyed.

I will give the result of some observations, and hope that others will do the same. A neighbor has a vine trained on a trellis, which nearly always rotted, another of the same variety on a tree, which scarcely ever rotted. He conducted the main vine on the trellis to a tree near by, which it has partially covered. The whole vine set an abundant crop of fruit the present season. Nearly all rotted on the trellis, as usual, while that on the tree remained sound and matured well.

The vine first alluded to, on a tree, having pretty well covered it, he carried a branch to another tree on which it bore a goodly number of bunches.

The vine matured a good crop of fruit on both trees, while every grape in the gap, or open space between the trees, rotted. These trees branch out low and are sufficiently open to freely admit the sun and air. A friend, a few miles off, has two vines of the same variety—one on a trellis, the other on a tree, with the same result as before related—all rotted on the trellis, while those on the tree remained perfectly sound and good.

I have also heard of other similar cases the present season, in different portions of the State. By proper sanitary measures we may avoid much sickness, but disease will sometimes overtake us in spite of our caution. So with the grape. We may discover what will answer one season, but the next may be the very opposite. I have heard it said that grapes growing on trees are very subject to rot in wet seasons.

I have taken special pains to keep a vine off a tree, which don't ripen a crop once in three years. I shall let it run riot in future, and wait the result with patience.

We derive the most of our information from works published at the North, and may be in the habit of using the knife rather too freely for our dry, hot climate of the South.

A little shade may not be injurious with us, while sunshine is all important in the moist climate and short Summers of the North.

Some shade or protection may be of service at times to keep off the cold dews, and may also have a tendency to regulate the temperature.

It may be questionable whether the rot takes place until after the formation of some juice in the berries. The small grapes may pass the time of *cold nights* before developing any juice, and hence less liable to rot. The grape was one of the first fruits cultivated by man, and to this day is one of the most desirable.

The rot, however, is becoming a serious drawback to the cultivation of some of the finest varieties, and, unless a remedy can be found, their cultivation will have to be abandoned.

They might succeed on the side of some of our mountains, where there is neither dew or white frost.

AMATEUR.

IMPROVED STOCK FOR SOUTH CAROLINA.

[Finding our Agricultural department too much crowded to allow us to insert the following in its proper place, we have taken the liberty of encroaching upon the domain of our Horticultural editor.—PUBLISHER.]

We clip the following from the Journal of the New York State Agricultural Society, to show that some of our citizens are alive to the interests of establishing breeding farms at the South. We understand, from reliable authority, that the gentlemen alluded to in the following extract, have succeeded in providing themselves with some very superior animals, and we may promise our visitors to the Fair a rich treat:

Col. J. D. Williams, Son & Brother, and four other gentlemen, from South Carolina, called upon us a few weeks since, in relation to stock, which they were desirous of purchasing. We gave them such attention as our time would permit, showing them some cattle, horses, swine, &c., with which they were very much pleased. They left here for Vermont, where, we presume, they secured sheep and horses, for which that State is so renowned.

We learned, since they left here, that they purchased of Hon. William Kelly, of Ellerslie Farm, Rhinebeck, a Short-Horn Bull, and heifer calf, with which they were much gratified. Mr. Kelly was not desirous of parting with his heifer calf, but as they were anxious of obtaining both from his herd, he consented to part with the one selected, and we have no doubt that the animals will do credit to these gentlemen, as both were very promising.

[Col. Williams made a purchase of Short-Horn stock in this State in 1852, at which time we assisted his agent, and he assured us they are doing as well as could be desired, and he believes them the most valued animals introduced into the State.

[Col. Williams resides in Laurens district and, we are assured by gentlemen acquainted with him, that he is a very intelligent planter, and is doing much for the prosperity of the agricultural interest of the South.

Wood ashes and common salt, wet with water, will stop the cracks of a stove, and prevent the smoke from escaping.

From the California Culturist.

WINTER APPLES.

Editor Culturist:—Agreeably to your suggestion, I will attempt to give you my theory and inferences, relative to the process of natural causes in producing late-keeping varieties of apples and pears. Although I assume to illustrate a theory, yet it is by facts and all that has been apparent to inquisitive observation for thirty years.

It has been a matter to excite admiration that, in vegetables, there is that which resembles the instinct of animals. We may say that vegetable life is subject in its processes to exigency. The want of light is the exigency under which the "intelligent potato," in the cellar, directs its growth toward the window. The want of time in the arctic regions is the exigency that causes the rapid growth of vegetables, so much admired by travelers; yet this adaptation or modification of process to want, in vegetation, is only the operation of natural laws. Rapid vegetation, in high latitudes, may be caused by the continuance of light during the arctic day.

This acclimation of plants to latitudes differing from that of their origin, is by gradual process.—Indian corn is asserted to be of tropical origin, and indigenous to this continent, and was probably brought out from the tropics by the aboriginal inhabitants. It is observable that varieties of corn, from high latitudes, with a shortened period of reproduction of only six weeks, regain their original type on removal to the south—the ears becoming larger and their period of growth longer. The cotton-plant also becomes less by its removal from the tropics, and the result is uniform with all tropical productions.

The apple is probably a native of the temperate zone; yet it is subject to this law of adaptation, acclimates to higher and lower or more degrees of latitude than fruits of tropical origin.

I came here from latitude thirty-six north, in North Carolina. Twenty-five years ago but little was known of the fine fruits then in existence and cultivation in Europe, and incipiently in the northern States. Some few persons, merchants and others, who had visited the northern cities, had, for their own use, introduced some of the fine fruits—apples especially. The green Newtown pippin had been introduced to North Carolina, under the name of New York pippin, soon after its origin.

About 1835, I began to select and cultivate the fine fruits. My selections consisted of native apples and peaches, and to these I added the reputedly best kinds, described by Cox, and Kenrick, and Downing afterwards. In due time, it was demonstrated that the northern winter apples had lost their keeping qualities with us, ripening in autumn. Recourse was now had to varieties of native or seedling southern origin, for such only were found to keep through the winter. The inquiry for native varieties has been continued since I left, and the result has been that quite a number of winter-keeping varieties have been found originating from Carolina to Mississippi, and of excellent quality. Some of these I brought with me here, and have been receiving others since my arrival. A few of them showed fruit here last season and seem to possess their keeping qualities, notwithstanding the ripening tendency of our long dry summer and warm autumn. Six of those varieties I have submitted to your inspection, both as to their intrinsic and keeping qualities. I will conclude by observing that the process of acclimation

is not by change on an individual, transposed from its native locality, but on the repeated processes of reproduction from seed; for instance, the Roxbury russet, and other northern varieties, never would become late keepers in the south, yet their seedlings might.

CHAS. MOCK.

PRUNING CONIFERS.

McIntosh, in his *Book of the Garden*, says: "As regards the season of pruning coniferous and ornamental hardy trees, be they evergreen or deciduous, Winter has, in general, been the time chosen. This is, however, a mistake—the latter end of Spring and throughout the whole Summer being the most proper time, because at that season the wounds made speedily heal up, on account of the trees being in the full vigor of growth.

"As the great object is altitude in the pine tribe, the removal of the lower tiers of branches has a positive tendency to effect this, although it would be hazardous to amputate branches of a large size.—Coniferous pruning should be performed only during Summer; and when the trees assume flat spreading heads, (we do not mean those whose natural habit is to be so, but such as the larch, silver fir, &c.,) the extreme points of two or three tiers of branches, even above that which is to be removed, may, with great advantage, be foreshortened. This should, however, be done so as not to disfigure the tree, or show the points of the amputated shoots. That most elegant, and likely to be most valuable, of all our recently introduced conifers, the Deodar Cedar (*Cedrus Deodara*), is a case in point. It naturally, while young, sends out branches in a horizontal and afterwards a drooping manner, and these extend themselves to a great distance, often reeling on the ground, by reason of their own weight. This disposition is the cause why the leading shoot of this tree seems so weak, and so seldom takes a perpendicular direction. Prune the lower branches as stated above, and this apparent debility in the leader will disappear, and it will assume its proper habit, and shoot with great vigor, in a perpendicular direction. All the young plants of this species, while yet in the nursery, should have their lower branches taken off, and those above, to the extent of two tiers, foreshortened also. The Canadian pine (*Abies Canadensis*) and Cedar of Lebanon (*Cedrus Libani*) are familiar instances of sad mismanagement in this respect. The former is oftener found assuming the character of a flat or bushy shrub than that of a tall tree; and the latter very often a scrubby, meagre-looking tree, branching out within a few feet of the ground, and ramifying into innumerable branches, either vertical or horizontal. Now, we consider (apart from the erroneous practice of keeping such plants in pots till they are finally planted out) that want of judicious early pruning is the cause why the former seldom attains the character of a tree, and the latter becomes a caricature of its natural habit. No doubt, in the case of both, there are seminal varieties occasionally occurring, which may, in some few instances, account for such forms; but, in general, it is a thorough neglect of pruning in youth, which is the principal cause.

"Coniferous plants will bear pruning with as much impunity, and with as great advantage, as other trees or plants, if the operation is performed at the proper season and at a proper age. None, however, suffer more from an opposite course."

Domestic Economy, Recipes, &c.

From the Rural New-Yorker.

GOOD AND CHEAP PIES.

Thinking pies indispensable at any time of the year, I concluded to send some recipes for every day use, as many of those in the *Rural*, though good, may be too expensive for some.

As the *pumpkin pie* is the cheapest of all pies, and the season for them approaching, I give a mode of making an excellent pie of grated raw pumpkin, for a change, as it does not taste like a stewed pie, which all know how to make. About a teacupful of grated pumpkin; 1 pint of good milk; 1 egg; a little salt; 2 large spoons sugar; cinnamon, spice or nutmeg.—Line the tin and bake until done. The remainder of the pumpkin can be cleaned out, and kept in a cool pantry for several days, and new pies baked each day, if you wish, with a little trouble.

All who have pumpkins in the Fall ought to dry some for the next Summer's use, and the best method I know of is to stew pumpkin down very dry, then spread it on plates or tins, if not old and rusty, to dry. It can be dried in an oven, or in the sun—just which is most convenient. While drying, cut it as you would a pie, and turn it daily, until dried enough. It should be spread about an inch thick, and when dried, tied up in a clean bag and hung up so that moth or miller cannot get in to injure it.—When wanted, soak over night in warm milk and sift.

A cheap pie can be made of *rice*. Every one ought to keep rice on hand all the time, as it is a cheap and healthful food. One cupful, when boiled in water with a teaspoonful of salt until tender, will make 3 cups of rice; this, with sufficient milk, a teacup of sugar, 2 eggs, and a little seasoning, will make 3 pies in large tins, which are good enough for those who have a good appetite.

A cheap way to make *apple pies*, where there are no apples or pie-plant, (which all should raise who have a few feet of land.) For a common pie, take half a teaspoonful of tartaric acid, and dissolve it in 2 cups warm water, crumb up 1 cupful of light bread, and soak in the water, half cup of sugar, a little salt; season as you like, and bake with two crusts. If you wish a better pie, put in twice as much sugar and acid, and a little butter. Tartaric acid is not expensive, and is very handy to keep in the house. It makes a good and cooling drink in Summer.—Sweeten a pitcher of water, put a few drops of extract or essence of lemon, then add acid until it is agreeable.

A FARMER'S WIFE.

Ionia, Mich., Aug., 1859.

ROAST BEEF PIE.—Cut the cold roast beef left from a previous meal into thin slices; lay some of the slices into a deep dish, which you have lined on the sides with a good puff paste; sprinkle over this layer a little pepper and salt, put in a few slices of tomatoes; another layer of beef, another of seasoning, until the dish is filled; cover the whole with paste, and bake half an hour.

PLAIN CAKE.—Two eggs; $\frac{1}{2}$ cup cream; 1 of sugar; 1 of flour; 1 teaspoonful of saleratus; 1 table-spoonful of rose water.

TOMATO WINE.—Now that tomatoes are more abundant than they have been known to be in former years, the following recipe for making from them a wine, said to be equal to Heidsick, will be read by everybody:

Take small, ripe tomatoes, pick off the stems, put them into a tub, wash them clean, and then strain them through a linen bag. (One bushel will make five gallons of pure wine.) Add two-and-a-half to three lbs. loaf sugar to each gallon, then put into a cask and ferment, and fix as do raspberry wine. If two gallons of water be added to the five gallons of juice, it will still make a very nice wine. Brown sugar may be used instead of loaf, but the wine is much more sparkling when loaf sugar is used. The United States might export this wine by the ship load. It is said to be a delightful beverage, equal to Heidsick.

BLACK VARNISH.—Best sealing-wax half an ounce; rectified spirits of wine, two ounces; powder the sealing-wax, and put it with the spirits of wine into a four ounce phial; digest them in a sand heat or near the fire till dissolved. Lay it on warm with a fine hair brush. Spirits of turpentine may be used instead of spirits of wine.

CHEAP VINEGAR.—Take one quart ripe currants, crush, mix with one quart soft water, one cup sugar or molasses. Put all in a stone jar, stir well, cover well with a thin cloth, place it in the sun, shake occasionally, and in one week you will have excellent vinegar. Try it.

A GOOD, HEALTHY DESSERT PUDDING.—Take equal parts of Indian meal and rye flour, and make same as hasty pudding. Eat with either milk or molasses, according to taste.

GREEN APPLE PIE—IMITATION.—One and one-half cups bread rubbed fine; 3 cups of warm water; 2 cups of sugar; $1\frac{1}{2}$ cups of vinegar; 1 tablespoonful of butter; spice to your taste.

SOFT GINGERBREAD.—One cup of molasses; 1 cup of sugar; 1 cup of butter; 3 eggs; 4 cups of flour; 1 cup of buttermilk; 1 spoonful of ginger; 1 teaspoonful of soda.

A CURE FOR RHEUMATISM.—Half-pint brandy; 1 oz. of bear's oil; 1 oz. organum oil; $\frac{1}{2}$ oz. of cayenne pepper. Mix, and bathe the part affected.

CRISP GINGER CAKE.—Three pounds of flour; 1 of sugar; 1 of butter; 3 tablespoonfuls of ginger; and wet it with molasses. Roll it thin.

A hot shovel held over varnished furniture will take out white spots, it is said.

A bit of glue dissolved in skim-milk and water, will restore old crape.

Ribbons of any kind should be washed in cold soap suds, and not rinsed.

If you are buying a carpet for durability, choose small figures.

A bit of soap rubbed on the hinges of doors will prevent their creaking.

Scotch snuff put on the holes where crickets come out will destroy them.